



# ALBERTA AUTHORIZED RESOURCE LIST and ANNOTATED BIBLIOGRAPHY

## SCIENCE

Grades 7 to 9

September 2003

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Learning and Teaching Resources Branch



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Alberta. Alberta Learning. Learning and Teaching Resources Branch.

Science Grades 7 to 9 : [electronic resource].

Authorized Alberta resource list.

URL: [http://www.learning.gov.ab.ca/k\\_12/curriculum/bySubject/science/default.asp](http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/science/default.asp)

ISBN 0—

1. Science—Alberta—

I. Title.

XXXXX 2003

372.37

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The primary intended audience for this document is:

<i>Administrators</i>	
<i>Counsellors</i>	
<i>General Audience</i>	
<i>Parent School Councils</i>	
<i>Parents</i>	
<i>Students</i>	
<i>Teachers</i>	✓

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## OVERVIEW

### Alberta Learning Authorized Resource Categories

This list of Science resources, Grades 7, 8 and 9, contains resources that have been authorized for use in Alberta schools. Alberta Learning selects and authorizes the best possible instructional materials for the implementation of approved programs of study. The resource authorization categories are **student basic**, **student support** or **authorized teaching**, and the status is noted for each resource.

**Student Basic** learning resources are those student learning resources authorized by Alberta Learning as the most appropriate for addressing the majority of outcomes of the course(s) or substantial components of the course(s); or the most appropriate for meeting general outcomes across two or more grade levels.

**Student Support** learning resources are those student learning resources authorized by Alberta Learning to assist in addressing some of the outcomes of the course(s) or components of the course(s); or to assist in meeting the outcomes across two or more grade levels.

**Authorized Teaching** resources are those teaching resources identified as the best available resources to support the implementation of programs of study and courses; they may be teacher guides to accompany student resources or teacher professional resources. The authorized teaching guides are listed with the student resources.

The list of these resources is organized by grade and by unit (Unit A to Unit E) within each grade.

#### Note:

Alberta Learning strongly recommends that teachers read all selections in the student resources and all activities in the teacher guides prior to using them with students. Careful consideration should be given to the sensitivities of both the student audience and the community.



## Annotated Bibliography

Annotations for these new junior high science resources are included in alphabetical order at the end of each grade. The annotations identify the grade(s) and unit(s) the resource is authorized for, a brief description of content, publisher, copyright date and purchasing information.

### Note:

As additional new resources authorized for Grades 7–9 Science, their titles/grades and annotations will be included in the next edition of this document.

## Availability

Most of the new Alberta resources are available for purchase from:

Learning Resources Centre  
12360 – 142 Street, Edmonton, AB T5L 4X9  
Phone: (780) 427–5775  
Fax: (780) 422–9750  
Internet: <<http://www.lrc.learning.gov.ab.ca>>

LRC order numbers and prices (as of the printing of this booklet) are included for each resource.

Those resources which must be purchased directly from the vendor/distributor are so noted on the authorized list and on the annotation. A listing of vendors/distributors is provided at the end of this booklet.

## Authorized Science Resources

### Note:

For a **complete** list of Science resources, consult the Learning Resources Centre *Buyers Guide*. Some of the older resources will be withdrawn from authorized status in the year(s) ahead.





# ALBERTA AUTHORIZED RESOURCE LIST and ANNOTATED BIBLIOGRAPHY

## Grade 7 Science



Learning and Teaching Resources Branch







# GRADE 7

## Units A, B, C, D, E

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Basic Learning Resources</b>				
<b>Addison Wesley Science in Action 7 Series</b>				
Addison Wesley Science in Action 7 (Student Text) <i>Addison Wesley Science in Action 7 Series</i>	2001	Basic 7A / 7B / 7C / 7D / 7E	449662	\$68.30 LRC
Addison Wesley Science in Action 7: Teacher's Resource Package <i>Addison Wesley Science in Action 7 Series</i>	2001	Authorized Teaching 7A / 7B / 7C / 7D / 7E	449688	\$243.05 LRC
<b>ScienceFocus 7 Series</b>				
ScienceFocus 7: Science • Technology • Society (Student Text) <i>ScienceFocus 7 Series</i>	2001	Basic 7A / 7B / 7C / 7D / 7E	449703	\$67.45 LRC
ScienceFocus 7: Science • Technology • Society: Illustrations CD-ROM (Macintosh / Windows Version) <i>ScienceFocus 7 Series</i>	2001	Authorized Teaching 7A, 7B, 7C, 7D, 7E	451857	\$174.50 LRC
ScienceFocus 7: Science • Technology • Society: Teacher's Productivity Package (Macintosh / Windows Version) <i>ScienceFocus 7 Series</i>	2001	Authorized Teaching 7A, 7B, 7C, 7D, 7E	508418	\$149.35 LRC
ScienceFocus 7: Science • Technology • Society: Teacher's Resource Binder (with Blackline Masters on CD-ROM) (Windows/Macintosh) <i>ScienceFocus 7 Series</i>	2001	Authorized Teaching 7A / 7B / 7C / 7D / 7E	449711	\$237.50 LRC

# GRADE 7

## Unit A - Interactions and Ecosystems


Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
Animal Interdependency; Endangered & Extinct Animals; Food Chains <i>Animal Life in Action Series</i>	2000	Support 7A		LRC
		Animal Interdependency (Video)	480872	\$76.00
		Endangered & Extinct Animals (Video)	480880	\$76.00
		Food Chains (Video)	480898	\$76.00
 The Barrens Quest	1997	Support 7A	520884	\$58.40 LRC
Burns Bog: A Road Runs Through It	1999	Support 7A	468018	\$46.70 LRC
Coral Reefs: Vanishing Treasures (Video and Teacher's Guide)	1999	Support 7A (Marlin Motion Pictures Ltd.)		Vendor Direct
The Digital Field Trip to the Desert (Macintosh / Windows Educational Version 1.2) <i>The Digital Field Trips Series</i>	2001	Support 7A / 7E	470386	\$86.80 LRC
The Digital Field Trip to the Rainforest (Macintosh / Windows Educational Version 1.2) <i>The Digital Field Trips Series</i>	2001	Support 7A / 7B	470427	\$86.80 LRC
The Digital Field Trip to the Wetlands (Macintosh / Windows Educational Version 1.2) <i>The Digital Field Trips Series</i>	2001	Support 7A / 7B	470451	\$86.80 LRC
Earth's Endangered Environments (Macintosh and Windows Version) <i>NGS PictureShow Series</i>	1994	Support 7A	511007	\$109.90 LRC
Ecology (Macintosh Version 1.0 / Windows Version 1.1) <i>Biology Concepts Series</i>	1997	Support 7A	467911	\$182.95 LRC
FEESA: Video Tour Part 2 (Forestry Field Trip)		Support 7A / 7B	467846	\$23.40 LRC
The Food Chain <i>Animal Life and Beyond Series</i>	1998	Support 7A	479015	\$57.30 LRC
 Footprints in the Delta	2000	Support 7A	520876	\$46.70 LRC
Great Northern Forest	1994	Support 7A	BPN 840201	ACCESS—The Education Station
Heat and Living Beings <i>Animal Life and Beyond Series</i>	1998	Support 7A / 7C	479023	\$57.30 LRC
Horses of Suffield	1998	Support 7A	468026	\$46.70 LRC
Marine Life <i>Animal Life and Beyond Series</i>	1998	Support 7A / 8E	479031	\$57.30 LRC

# GRADE 7 (continued)

## Unit A - Interactions and Ecosystems

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
The Scientific Method	2000	Support 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E	BPN 2065501	ACCESS-The Education Station
Sea Otters <i>Champions of the Wild Series</i>	1998	Support 7A	467995	\$46.70 LRC
St. Lawrence River Belugas <i>Champions of the Wild Series</i>	1998	Support 7A	468000	\$46.70 LRC
Succession	1994	Support 7A	482175	\$70.10 LRC
Symbiosis: Nature's Delicate Balance	1995	Support 7A	510942	\$57.30 LRC


### Authorized Teaching Resources

 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
Oceans - Climate Explorer (Windows / Macintosh Version) <i>Earthstation Library Series</i>	2000	Authorized Teaching 7A / 8E	472134	\$92.60 LRC
Pollution <i>National Geographic Geokit Series</i>	1997	Authorized Teaching 7A	510992	\$403.30 LRC
Why Wetlands? Education Kit	1994	Authorized Teaching 7A	511966	\$29.20 LRC





# GRADE 7

## Unit B - Plants for Food and Fibre

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
A Closer Look at Plants (Macintosh / Windows Version)	2001	Support 7B	509771	\$130.95 LRC
The Digital Field Trip to the Rainforest (Macintosh / Windows Educational Version 1.2) <i>The Digital Field Trips Series</i>	2001	Support 7A / 7B	470427	\$86.80 LRC
The Digital Field Trip to the Wetlands (Macintosh / Windows Educational Version 1.2) <i>The Digital Field Trips Series</i>	2001	Support 7A / 7B	470451	\$86.80 LRC
Farming <i>Bill Nye the Science Guy Series</i>	1998	Support 7B	BPN 855281	ACCESS—The Education Station
FEESA: Video Tour Part 2 (Forestry Field Trip)		Support 7A / 7B	467846	\$23.40 LRC
Plant Biodiversity; Plant Reproduction; Plant Structure and Growth; Plants & People: A Beneficial Relationship <i>Plant Life in Action Series</i>	2000	Support 7B		LRC
		Plant Biodiversity	479247	\$76.00
		Plant Reproduction	479255	\$76.00
		Plant Structure and Growth	479263	\$76.00
		Plants & People: A Beneficial	479271	\$76.00
Plant Reproduction <i>Plant World Series</i>	2000	Support 7B	478306	\$192.90 LRC
Plant Structure and Function <i>Plant World Series</i>	2000	Support 7B	478281	\$192.90 LRC
Plants: What it Means to be Green (Macintosh / Windows Version 3.0) <i>NGS PictureShow Series</i>	1998	Support 7B	510984	\$109.90 LRC
The Scientific Method	2000	Support 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E	BPN 2065501	ACCESS—The Education Station
The World of Plants <i>Plant World Series</i>	2000	Support 7B	478299	\$192.90 LRC
<b>Authorized Teaching Resources</b>				
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
People and Plants (with Teacher's Guide) <i>The World of Plants Series</i>	2000	Authorized Teaching 7B	513334	\$34.95 LRC
Photosynthesis: Light into Life (Videocassette with Teacher's Guide)	1997	Authorized Teaching 7B	485509	\$232.65 LRC
Plants <i>National Geographic Geokit Series</i>	1999	Authorized Teaching 7B	467937	\$403.30 LRC

# GRADE 7


## Unit C - Heat and Temperature

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
Heat and Living Beings <i>Animal Life and Beyond Series</i>	1998	Support 7A / 7C	479023	\$57.30 LRC
Molecular Motion <i>Science Key Concepts: Physics / Chemistry Series</i>		Support 7C	513342	\$34.95 LRC
Properties of Matter <i>Physical Science in Action Series</i>	2000	Support 7C / 8A	480905	\$76.00 LRC
The Scientific Method	2000	Support 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E	BPN 2065501	ACCESS-The Education Station
Turning Down the Heat: The New Energy Revolution	1999	Support 7C	468034	\$46.70 LRC
<b>Authorized Teaching Resources</b>				
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
 Geology Explorer (Windows / Macintosh Version) <i>Earthstation Library Series</i>	2000	Authorized Teaching 7C / 7E / 8E	523028	\$92.60 LRC







# GRADE 7

## Unit D - Structures and Forces

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
Architecture <i>Bill Nye the Science Guy Series</i>	1998	Support 7D	BPN 855287	ACCESS-The Education Station
Human Body 1: Picture Show CD-ROM (Macintosh / Windows Version 4.0) <i>NGS PictureShow Series</i>	1998	Support 7D / 8B	467979	\$87.90 LRC
The Scientific Method	2000	Support 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E	BPN 2065501	ACCESS-The Education Station
The Skeletal System (2nd Ed. Revised) <i>Human Body Series</i>	1993	Support 7D	467820	\$57.30 LRC
<b>Authorized Teaching Resources</b>				
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
Human Body 1: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies) <i>NGS Picture Pack Series</i>	1998	Authorized Teaching 7D / 8B	467953	\$91.20 LRC

# GRADE 7

## Unit E - Planet Earth

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
All About Rocks and Minerals (Video and Teacher's Guide) <i>Basics of Geology Series</i>	1998	Support 7E (Marlin Motion Pictures Ltd.)		Vendor Direct
The Digital Field Trip to the Desert (Macintosh / Windows Educational Version 1.2) <i>The Digital Field Trips Series</i>	2001	Support 7A / 7E	470386	\$86.80 LRC
 Formations of Continents and Mountains <i>Basics of Geology Series</i>	1998	Support 7E (Marlin Motion Pictures Ltd.)		Vendor Direct
Fossils <i>Bill Nye the Science Guy Series</i>	1998	Support 7E	BPN 855285	ACCESS-The Education Station
 Oceans: Charting the Vastness <i>Survey of Science: Earth Science Essentials Series</i>	1996	Support 7E	510950	\$115.75 LRC
Plate Tectonics: Earthquakes, Volcanoes and Mountains (Video and Guide) <i>Earth Science Series</i>	1998	Support 7E	482191	\$70.10 LRC
The Scientific Method	2000	Support 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E	BPN 2065501	ACCESS-The Education Station
Volcano <i>Eyewitness Series</i>	1996	Support 7E	467797	\$46.70 LRC
Water Erosion and Landforms (Video and Guide) <i>Earth Science Series</i>	1998	Support 7E / 8E	482183	\$70.10 LRC
What Are Glaciers? <i>Earth, the Environment and Beyond Series</i>	1992	Support 7E / 8E	467838	\$57.30 LRC
What Are Volcanoes? <i>Earth, the Environment and Beyond Series</i>	1992	Support 7E	467812	\$57.30 LRC
<b>Authorized Teaching Resources</b>				
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
Dynamic Earth <i>National Geographic Geokit Series</i>	1998	Authorized Teaching 7E	467929	\$403.30 LRC
Dynamic Earth: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies) <i>NGS Picture Pack Series</i>	1998	Authorized Teaching 7E / 8E	470493	\$72.95 LRC
 Geology Explorer (Windows / Macintosh Version) <i>Earthstation Library Series</i>	2000	Authorized Teaching 7C / 7E / 8E	523028	\$92.60 LRC
Rocks and Minerals: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies) <i>NGS Picture Pack Series</i>	1998	Authorized Teaching 7E	470500	\$91.20 LRC



# Grade 7: Annotated Bibliography (alphabetical listing)

LRC Order No.: Est. Price:  
449662 \$68.30  
449688 \$243.05

Addison Wesley Science in Action 7 (Student Text)  
Addison Wesley Science in Action 7: Teacher's Resource Package  
Addison Wesley Science in Action 7 Series  
Basic / Authorized Teaching Resource  
© 2001 Author(s): Booth, C. et al.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓	✓	✓	✓	✓										

This student book and teacher's resource binder provide direct support for the Alberta program of studies for Grade 7 Science. Together these resources provide an extensive set of learning activities and planning tools for students and teachers. Numerous Canadian and Alberta examples are provided. The student text includes an introductory outline and summary review section with each chapter, a science toolbox for skill development and a glossary of key terms. The teacher resource includes general sections on skill development, student assessment, and lists of required materials and equipment. Detailed sections in each unit include an overview, instructional suggestions, and several sets of blackline masters targeting a range of instructional and assessment needs.



**All About Rocks and Minerals (Video and Teacher's Guide)****Basics of Geology Series****Support Resource**

© 1998

Marlin Motion Pictures Ltd.; 211 Watline Avenue, MISSISSAUGA ON L4Z 1P3

Telephone: 888-260-2232; 905-890-1500 Internet: <http://www.marlineducation.com>**Vendor Direct**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓										

This video explores the formation and characteristics of rocks and minerals. Using a flow chart, animation, and examples of natural geological features, the video effectively illustrates the rock cycle. The formation of igneous, sedimentary, and metamorphic rocks is described in some detail, along with examples of rocks in each class. The video shows how the process of crystallization leads into an array of crystals with their characteristic shapes. Other features of minerals such as hardness and cleavage are identified, along with the way to test for each property. The resource also looks at the continued discoveries of useful resources (such as oil) in the earth's crust, and researchers' development of new ways to extract them. The video uses a traditional style of presentation with a focus on scientific content. Blackline masters and a teacher's guide can be viewed and printed online at «[www.unitedlearning.com](http://www.unitedlearning.com)».



LRC Order No.: Est. Price:  
**480872 \$76.00**  
**480880 \$76.00**  
**480898 \$76.00**

- **Animal Interdependency**
- **Endangered & Extinct Animals**

- **Food Chains**

### *Animal Life in Action Series*

#### **Support Resource**

© 2000

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

• *Animal Interdependency*: This video explores the interdependency of animal life, categorizing animal dependency into several types. The video explains the concepts of food chains and food webs, providing a description of photosynthesis and examples of simple food chains and webs. The video also describes the ecological role of decomposers and consumers in recycling matter and maintaining balanced populations. After introducing the concept of symbiosis through a simple experiment presented by two students, the video explores different symbiotic relationships that exist, illustrated by visual footage of parasitism, commensalism, mutualism and cooperation. The resource also examines the concept of ecosystem, looking at the disruptive effects that natural disasters and human impact have on existing animal relationships. Finally, the video presents some unexpected relationships that develop between animals in zoos.

Note: A portion of this video overlaps in content with the *Animal Life in Action - Food Chains* video in its narration and visual content.

• *Endangered & Extinct Animals*: This video deals with extinction as a normal endpoint for most organisms. It points out that extinction is generally a gradual process; relatively rapid extinctions like that of the dinosaurs are caused by a sudden climatic change set off by a natural catastrophe. The video goes on to identify human intervention as the main cause for the disappearance of species today, addressing the effects of habitat destruction, chemical pollution and use of pesticides. The video discusses ways of assessing environmental quality, and features a student-narrated segment on the determination of nitrate content in a water sample. The resource finishes with a discussion of laws passed to protect endangered species, and describes ways that people have contributed to the protection of threatened animals, particularly those jeopardized by oil spills.

• *Food Chains*: This video focuses on the concept of energy flow, explaining the process of photosynthesis and providing examples of simple food chains to show how the sun's energy is the source of all life on earth. The video presents both terrestrial and aquatic food chains and shows examples of how the overlapping of food chains leads to food webs. The narration integrates related scientific terms such as producer, primary and secondary consumer, ecosystem, biomass, and energy pyramid. The biochemical role of decomposers is explained, with reference made to specific chemical compounds released by their action. The resource also deals with the pyramids of energy and biomass, human impact on the balance of nature, and the impact of natural disasters on animal populations. The video finishes with a student-led experiment to show the progression of microorganisms that appear in a boiled hay infusion.

**Architecture****Bill Nye the Science Guy Series****Support Resource**

© 1998

**ACCESS—The Education Station / Regional Resource and Urban Media Centres****BPN 855287**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
			✓											

In this video, Bill Nye gives viewers a comprehensive overview of the planning, design, and construction of buildings. His "form follows function" approach encompasses considerations such as location, appearance, materials choice, and the use of scale models. Examples of infrastructure, trusses, arches, domes, geodesic domes, and planning views are given. The program finishes with a look at the melding of science and art in earthquake resistant pagodas.

**The Barrens Quest****Support Resource**

© 1997

**520884****\$58.40**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This video explores the destructive environmental impacts of mineral development in the Northwest Territories, as well as the complex changes that people in the region are now facing. The government's approval process of the Ekati diamond mine is analyzed to identify limitations, and local people are interviewed to present their views on the issues and concerns connected with the mine. These issues are also explored through the story of one man's quest to find the fabled breeding grounds of the Eskimo Curlew, a once common bird that is now near extinction. Through the story of Joachim Obst and others, the video makes an emotionally affecting case for planned conservation in one of the last unspoiled wilderness regions left in the world.



# Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)

Authorized Teaching Resource

© 2000 Author(s): Agban, J. et al.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

This Canadian edition has been thoroughly revised in light of the *The Common Framework of Science Learning Outcomes* (Council of Ministers of Education Canada, 1997). This safety resource contains advice on such diverse topics as "Making Things," "Testing Things," "Food and Hygiene," "Heating and Burning," "Chemicals," "Electricity," "Animals," "Plants," "Micro-organisms," "Optical Instruments" and "Studies Out of School."

## Burns Bog: A Road Runs Through It

Support Resource

© 1999

468018 \$46.70

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This 25-minute video explains the bog ecosystem, its species and their interactions and interdependencies. In light of this information, the video then addresses the environmental impact of human activity and encroachment as a cause of species' endangerment.

# A Closer Look at Plants (Macintosh / Windows Version)

## Support Resource

© 2001

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
	✓													

This CD-ROM lets users access a wealth of information about non-vascular and vascular plants, including details on plant microanatomy, plant structures, life cycles, and plant processes such as transpiration, photosynthesis, and growth. It also presents a number of plants that are used for food or for medical purposes. The resource contains over 200 images showing 75 species of plants, and includes a ten-minute animation of the process of photosynthesis. A "Topic Locator" is provided, allowing students to find specific information quickly and easily.

## Coral Reefs: Vanishing Treasures (Video and Teacher's Guide)

### Support Resource

© 1999

Marlin Motion Pictures Ltd.; 211 Watline Avenue, MISSISSAUGA ON L4Z 1P3

Telephone: 888-260-2232; 905-890-1500 Internet: <http://www.marlineducation.com>

Vendor Direct

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This video explores human impact on coral reefs around the world. The large variety of plants and animals on healthy reefs is compared to the relative lack of life on reefs destroyed by human activity. From the islands of Palau in the Pacific Ocean to the Florida Keys, local individuals discuss the value of reefs to people in their communities and the changes that have occurred to reefs in their area. It becomes clear why coral reefs are called "vanishing treasures." Local and global initiatives to save coral reefs are explored along with the social dilemmas each initiative faces. This is a great introduction to the study of marine ecosystems and biomes, with an emphasis on conservation, human impact and social issues.

# The Digital Field Trip to the Desert (Macintosh / Windows Educational Version 1.2) The Digital Field Trips Series

## Support Resource

© 2001

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓				✓										

In this resource, students are taken on a series of "virtual" field trips to five desert locations in the southwestern United States. As students travel down the trails in each location, they are able to view landscapes from stations along each trail, turn in all directions, and zoom in on plants and animals. Video clips, animations, narrations, games, quizzes and full-colour photographs are used in this interactive resource. Concepts developed include climate, landscape formation, adaptations for plant and animal survival, and homeostasis. The resource includes a 66-page teacher guide, student masters, and one CD-ROM for stand-alone use. Workbook materials are provided in electronic format, allowing teachers to adapt exercises to student needs.

### Note:

- A site-license version of this resource—allowing unlimited use in one school—is also available from the resource developer.



# The Digital Field Trip to the Rainforest (Macintosh / Windows Educational Version 1.2)

## The Digital Field Trips Series

### Support Resource

© 2001

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓	✓													

In this resource, students are taken on a "virtual" field trip to Belize, Central America, to experience the sights and sounds of the rainforest. Students are able to view the landscape from a series of stations along a trail, turn in all directions, and zoom in on plants and animals. Video clips, animations, narrations, games, quizzes and full-colour photographs are used in this interactive resource. Concepts developed include interdependence of plants and animals, ecological cycles, and effects of humans on the rainforest ecosystem. The resource includes a 65-page teacher guide, student masters, and one CD-ROM for stand-alone use. Workbook materials are provided in electronic format, allowing teachers to adapt exercises to student needs.

#### Note:

- A site-license version of this resource—allowing unlimited use in one school—is also available from the resource developer.

# The Digital Field Trip to the Wetlands (Macintosh / Windows Educational Version 1.2)

470451 \$86.80

## The Digital Field Trips Series

### Support Resource

© 2001

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓	✓													

In this resource, students are taken on a "virtual" field trip to Algonquin Park in Ontario, to experience the sights and sounds of a bog. Students are able to view the landscape from a series of stations along a trail, turn in all directions, and zoom in on plants and animals. Video clips, animations, narrations, games, quizzes and full-colour photographs are all used in this interactive resource. Concepts developed include tropic levels, nutrient cycles, the formation of bogs, and interactions within the bog ecosystem. The resource includes a 44-page teacher guide, student masters, and one CD-ROM for stand-alone use. Workbook materials are provided in electronic format, allowing teachers to adapt exercises to student needs.

#### Note:

- A site-license version of this resource—allowing unlimited use in one school—is also available from the resource developer.

## Dynamic Earth

### National Geographic Geokit Series

#### Authorized Teaching Resource

© 1998

467929 \$403.30

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓										

This comprehensive teaching package teaches students about earthquakes, volcanoes, and the role of plate tectonics in shaping the Earth. Students can view volcanic eruptions and earthquakes; discover how mountain ranges, deep-sea rifts, volcanoes, and earthquakes are created; and learn how plate tectonics relate to natural disasters. The resource also includes explanations and activities to show students how to locate earthquake epicenters and plot volcanoes on the "Ring of Fire." The kit includes three videos, two maps, a class pack of National Geographic magazine articles, four transparencies, student handout/worksheet masters, and trivia cards. The teacher's guide offers hands-on activities and Internet exercises to actively engage students in their own learning. Assessment options are also provided.



# Dynamic Earth: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies)

NGS Picture Pack Series

Authorized Teaching Resource

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓					✓					

This teacher resource provides a set of 40 transparencies that show evidence of the dynamic Earth, including illustrations of folding, faulting, volcanoes, plate movements, mountain formation, glaciation, erosion and deposition. The illustrations consist mainly of photographs, but artwork depicting and explaining crustal movements is also included. A teacher's guide provides a paragraph of background information on each transparency and briefly outlines six mini-lessons that are based on use of the transparencies.

Earth's Endangered Environments (Macintosh / Windows Version)

511007 \$109.90

NGS PictureShow Series

Support Resource

© 1994

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This CD-ROM provides two 12-minute narrated picture sequences that describe endangered environments. "Rainforests" and "Wetlands" each provide images of a wide range of living things and identify problems that have led to habitat destruction. The CD-ROM also includes brief sections of Student Information, Classroom Activities, and Assessment Questions.

Note:

- The limited scope of these additional sections and technical limitations in navigating the CD-ROM are weaknesses in this otherwise useful resource.

**Ecology (Macintosh Version 1.0 / Windows Version 1.1)**  
**Biology Concepts Series**  
**Support Resource**

© 1997

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This CD-ROM program explores a number of fundamental ecological concepts that provide a foundation for understanding the natural world. The program consists of four units. Unit 1 provides an overview of the relationships of living things with their environment. It covers the concepts of ecosystem, community, population, habitat and niche. Unit 2 looks at nature's cycles and ecological succession. Unit 3 explores the interrelationships of organisms, with a major focus on the producer-consumer-decomposer relationship and the three types of consumers: herbivores, carnivores and omnivores. Unit 4 explores the more common biomes of the earth with their characteristic climates, plants and animals. Each unit includes a video clip providing visual examples of the concepts and details discussed. The program also includes a section on video vocabulary, inquiries of three specific ecological topics, and a final review.

**Farming**

*Bill Nye the Science Guy Series*

**Support Resource**

© 1998

**ACCESS—The Education Station / Regional Resource and Urban Media Centres**  
**BPN 855281**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
	✓													

In this video, Bill Nye provides the big picture of what farming is about, reminding viewers that most of our food comes from farms. Nye provides a quick survey of techniques used for planting, enhancing growth and harvesting, using a variety of crops as examples. The video then describes soil contents and soil fertility, emphasizing what makes soil fertile. This leads into a brief segment on organic farming and techniques for managing soil and water.

**Note:**

- Nye describes farming as a "science" rather than a technology.



**FEESA: Video Tour Part 2 (Forestry Field Trip)****467846****\$23.40****Support Resource**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓	✓													

In this video two narrators guide the viewer through a series of short "field trips" that introduce the viewer to some applications of forest study and forest technology in Alberta. The video contains four sequences, each set up as a separate section with its own introduction and wrap-up.

1. "Fire in the Forest" - Origins of forest fires, fire detection and fire control are shown within an Alberta context, with emphasis on the technologies involved. The role of fire within the cycle of forest life is also described.
2. "Understanding the Forest" - Techniques for study, inventory and research on living things found in forest lands are described. Examples of quantitative measures are shown: studies of tree growth, population counts, measures of age and range.
3. "Wood Products" - Use of aspen poplar trees in the manufacture of oriented strand board and medium density fibreboard is described and illustrated.
4. "Changes in the Forest" - Factors that lead to change in forests are described, including tree diseases, insect pests, severe weather, and human actions leading to tree cutting.

**The Food Chain*****Animal Life and Beyond Series*****Support Resource**

© 1998

**479015****\$57.30**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This video describes the process of converting solar energy to the energy in food, and the further transfer of energy through food chains. Key steps in photosynthesis are explained and illustrated through animations. Food pyramids and trophic levels are illustrated using a variety of animal examples.



## Footprints in the Delta Support Resource

© 2000

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This video tells the story of how the W.A.C. Bennett hydro-electric dam has altered the ecosystem in the Peace-Athabasca River delta region. Since the building of the dam in 1967, the area's lakes and wetlands have dried up significantly, with disastrous impacts on the vegetation and wildlife of the region. The decline in the muskrat population in particular has had critical effects on the Aboriginal community of Ft. Chipewyan, which supported itself through the fur industry. Scientists and aboriginal people are interviewed to give their perspectives on what has happened. Satellite images, aerial views and ground level photography provide visual evidence of the ecological changes, while animation and photography help explain why they have occurred. The video is a thought-provoking look at what happens when major projects are undertaken without any environmental impact studies.

## Formations of Continents and Mountains

*Basics of Geology Series*

Support Resource

© 1998

Marlin Motion Pictures Ltd.; 211 Watline Avenue, MISSISSAUGA ON L4Z 1P3

Telephone: 888-260-2232; 905-890-1500 Internet: <http://www.marlineducation.com>

Vendor Direct

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓										

The dynamic nature of the earth's crust is clearly presented in this two-part video. With the use of a model and animation, the earth's internal layers are described and correlated to volcanic activity, earthquakes, mountain formation, and continental drift. A history of the earth's crust is presented, starting with the volcanic origin of the continents followed by the gradual shift of the earth's plates from the supercontinent Pangea to their present positions. Sea floor spreading, subduction, thrusting, folding and faulting, and mountain formation are explored within the framework of the Plate Tectonics Theory. With the use of animations, the video effectively explains the cause of volcanoes and earthquakes. The resource concludes with a summary of main ideas and a set of review questions.

**Fossils****Bill Nye the Science Guy Series****Support Resource**

© 1998

**ACCESS—The Education Station / Regional Resource and Urban Media Centres**

BPN 855285

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓										

In this video, Bill Nye is joined by field geologists to explain what fossils are and how they are formed. Nye shows how fossil evidence, together with our knowledge of present life forms, provides images of life in the past, including rhinoceroses, ferns, fish, trilobites, dinosaurs and birds. The process of fossil formation is shown through animations, and through a mold-and-cast activity that students can try on their own.

**Note:**

- The video uses humorous commercial messages and a rock music segment to convey information in an engaging manner. Some teachers may find this style too tongue-in-cheek.

**Geology Explorer (Windows / Macintosh Version)****Earthstation Library Series****Authorized Teaching Resource**

© 2000

523028 \$92.60

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
		✓		✓					✓					

*Geology Explorer* is a multimedia study of planet Earth from core to crust. Lessons cover topics such as rocks and minerals, weathering and plate tectonics, all through the perspective of earth scientists. The resource contains approximately 600 MB of educational content, including hundreds of photographs, detailed captions and text, digital video, 3D animations, charts, music, sound effects, and narration. In addition, the CD-ROM includes interactive exercises and projects such as virtual experiments, demonstrations, mini-games and puzzles. Multiple choice tests, a sample lesson on plate tectonics, an extensive glossary and a connection to EOA Scientific Systems Inc.'s *Earth Station Internet Campus* are included. A teacher's manual and user's guide are also provided on the CD-ROM.



**Great Northern Forest****Support Resource**

© 1994

**ACCESS—The Education Station / Regional Resource and Urban Media Centres**  
**BPN 840201**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This video explores one of the great biomes of our planet, the boreal forest. The video follows the activity in the forest through the four seasons. It provides a good overview of the species that exist in this vast forest region and the adaptations they have developed to survive in the harsh climate that characterizes this part of the world. This video could be used as an effective springboard to discussing ecological concepts connected with the Interactions and Ecosystems unit.

**Heat and Living Beings*****Animal Life and Beyond Series*****Support Resource**

© 1998

**479023**      **\$57.30**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓		✓												

This video explores various ways that plants and animals adapt to different temperature conditions in the natural environment. Examples of ectomorphs (cold-blooded animals) and endomorphs (warm-blooded animals) are shown, as well as adaptations occurring in a variety of plant species. Structural and behavioural adaptations covered in the video include surface covering, size, shape, distribution in the environment, and movements during the day. The concept of plant succession is also briefly introduced.

# Horses of Suffield

## Support Resource

© 1998

LRC Order No.: Est. Price:

468026 \$46.70

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This video describes the fragile grassland area in Southern Alberta and the inability of the area to support the wild horses that lived there. It then presents the controversy that surrounded the removal of the horses from the area.

**Human Body 1: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies)** **467953 \$91.20**

## NGS Picture Pack Series

### Authorized Teaching Resource

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
			✓			✓								

This resource is a visual library of images illustrating several human body systems. It explains the basic components and functions of the skeletal, muscular, nervous, and endocrine systems. The kit includes 40 overhead transparencies and a teacher's guide with captions and activities.



**Human Body 1: Picture Show CD-ROM (Macintosh / Windows Version 4.0)**  
**NGS PictureShow Series**  
**Support Resource**  
 © 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
			✓			✓								

This CD-ROM consists of two self-contained shows that introduce the basic components and functions of the skeletal, muscular, nervous, and endocrine systems. In "Bones and Muscles," students can explore the skeletal framework that supports the body and the muscular system that allows the body to move and manipulate objects. In "Nervous and Endocrine Systems," they can discover the complex communication systems that link and control all the body functions and give us the ability to think and create. The resource also explains how these systems gather information through our senses, analyze the information, and then take action. This resource includes more than 100 images, music, narration and read-along text, a student guide, classroom activities and a user's guide.

**Marine Life**  
*Animal Life and Beyond Series*  
**Support Resource**  
 © 1998

479031 \$57.30

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓									✓					

This video describes the diversity of living things found in ocean environments. Examples of pelagic organisms (surface dwelling and free swimming) and benthic organisms (bottom dwelling) are shown. Key features of marine environments are described, and adaptations to those environments are illustrated and explained.

**Molecular Motion**  
**Science Key Concepts: Physics / Chemistry Series**  
**Support Resource**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
		✓												

This video looks at molecular motion and its effects on matter. The kinetic theory of matter is explained and applied to changes in state of matter, Brownian Motion and diffusion. The direct relationship between temperature and kinetic energy of ions and molecules is shown, as well as the inverse relationship between size of the particles and rate of diffusion. The effects of pressure on gases is also explored.

**Oceans: Charting the Vastness** **510950 \$115.75**

**Survey of Science: Earth Science Essentials Series**  
**Support Resource**

© 1996

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓					✓					

Oceans cover over 70% of the earth's surface and have a significant influence on the planet's geology, life, and climate. This video explores the geology of the ocean floor, the composition of ocean water, the dynamics of ocean currents and tides, the formation of shoreline features, and the influence of the ocean on weather patterns. Effective animation is used to illustrate tide formation. The video also outlines the diversity of marine life in tidal pools, estuaries, kelp forests, and around deep sea vents. The video closes with a look at oil, gas and other resources and their extraction from below the sea.



**Oceans - Climate Explorer (Windows / Macintosh Version)**  
**Earthstation Library Series**  
**Authorized Teaching Resource**

**472134 \$92.60**

© 2000

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓									✓					

This interactive multimedia resource focuses on oceanography and meteorology, providing a comprehensive exploration of the relationships between water and Earth's climate. Over 600 MB of exercises, images, videos, games, experiments, demos and puzzles are included in the program. The video clips cover topics ranging from the structure of the ocean to human activities and climate. An extensive glossary is also provided.

Note:

- This is a resource for teachers, but is also suitable as a reference source for more advanced students.

**People and Plants (with Teacher's Guide)**

*The World of Plants Series*

**Authorized Teaching Resource**

© 2000 Author(s): Colgren, J.; Fuqua, P. (Teacher's Guide)

**513334 \$34.95**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
	✓													

This 10-minute video, with five minutes of quiz, introduces students to various uses of plants in our lives. The video describes, in a visually pleasing manner, human uses of plants as sources of food, medicine and raw materials. The narration, however, is directed at a much younger audience in terms of pacing and vocabulary. A teacher guide accompanies the video and allows for extension activities as well as assessment of student understanding.

**Photosynthesis: Light into Life (Videocassette with Teacher's Guide)**  
**Authorized Teaching Resource**

© 1997

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
	✓													

This video explores the role of plants as natural solar collectors, converting solar energy into a usable form for themselves and all other life forms. The video uses colour animation, live-action photography and diagrams to enhance visual learners' understanding of photosynthesis as well as the energy releasing process of cellular respiration. Chemical equations for both processes are reviewed and the importance of glucose and oxygen are highlighted. The video examines leaf and chloroplast structure to show the role of chlorophyll and other pigments in trapping sunlight. Both light and dark reactions are explained with an appropriate amount of biochemistry. The teacher's guide provides a program summary and student activities.



LRC Order No.: Est. Price:

- Plant Biodiversity 479247 \$76.00
- Plant Reproduction 479255 \$76.00
- Plant Structure and Growth 479263 \$76.00
- Plants & People: A Beneficial Relationship 479271 \$76.00

# Plant Life in Action Series

## Support Resource

© 2000

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
	✓													

• *Plant Biodiversity*: This video explains the origins and evolution of plant species, emphasizing the wide variety of habitats that plants have adapted to, the structures that different plants have developed to succeed in their environments, and the effects of climate on plant diversity. The resource also explores the differences between vascular and nonvascular plants, explains how the development of seeds allowed plants to dominate the landscape, and identifies some differences between cone-bearing gymnosperms and flowering angiosperms.

• *Plant Reproduction*: This video explores the many different features that plants have developed in order to survive and reproduce. The resource explains how primitive mosses and algae are dependent upon water for their reproduction, and how the rise of fruit-bearing angiosperms as the dominant plants on Earth is due to the evolutionary success of flowers as a reproductive feature. Diagrams and microscopic photography illustrate the structures involved in flower pollination, beginning with the transfer of pollen from stamen to pistil and continuing through the development of seeds and fruit. A hands-on experiment suitable for the classroom also allows students to explore the concept of vegetative propagation and the benefits of this type of reproduction.

• *Plant Structure and Growth*: This video explains how plant cells are organized to form specialized tissues like xylem and phloem. Using diagrams and microscopic photography, the video illustrates how plant structures form systems that support plant growth. The resource then describes the movement of water, minerals and food through a plant's systems. A hands-on activity to investigate geotropism and observe how plants react to their environment is included.

• *Plants & People: A Beneficial Relationship*: This video explores how plants and animals interact, cooperate and compete, highlighting how the constant exchange of nutrients and gases between plants and animals assures their interdependency. The video explains how animals are vital to the reproductive process of many plants and how animals rely on plants for food and shelter. The resource also includes a hands-on experiment exploring how plants depend upon animals for pollination and whether or not a flower's colour is responsible for reproductive success.

**Plant Reproduction**  
*Plant World Series*  
Support Resource  
© 2000

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
	✓													

Using vivid images and engaging animations, this program describes how plants reproduce. The video addresses the wide variety of reproductive strategies found in different types of plants including both seedless and seed plants, as well as asexual and sexual forms of reproduction. Colourful animations are used to illustrate seed fertilization and development. Some of the terminology discussed includes spores, alternation of generations, cones, flower, ovule, pollen, pollination, sepal, petal, stamen, pistil, fertilization, and growth.

478281 \$192.90

**Plant Structure and Function**  
*Plant World Series*  
Support Resource  
© 2000

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
	✓													

In this program, students will learn how the structures of plants enable them to live and grow. Referring to a wide variety of plants, structures such as roots, stems, and leaves are explored in detail. Real-life applications illustrate how these plant structures are useful sources of food, building materials and medicine. The video highlights how plant structures play important roles in plant survival. Terminology and concepts conveyed in the video include roots, stems, xylem, phloem, leaf, stomata, guard cells, growth, photosynthesis and respiration.



**Plants**  
**National Geographic Geokit Series**  
**Authorized Teaching Resource**

© 1999

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
	✓													

This resource allows students to explore the diverse world of plants, from everyday foods to forgotten crops. Through hands-on activities, vivid transparencies, and engaging videos, the resource teaches how plants work, what they need to survive and how they obtain these requirements, how they help us breathe, and how they grow and reproduce. The videos include a presentation on the delicate relationship between plant and pollinator, a visit to a garden specifically designed to attract butterflies, and a trip to a rainforest to see what global threats mean on a personal level. Maps, articles and Internet activities enable further exploration of various topics, including the many uses of herbs, the economic importance of corn throughout history, and the dangers now facing plants around the globe. The kit also includes a set of student handouts, assessment options, and a teacher's guide.

**Plants: What it Means to be Green (Macintosh / Windows Version 3.0)**

**510984 \$109.90**

**NGS PictureShow Series**

**Support Resource**

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
	✓													

This CD-ROM provides two 12-minute narrated picture sequences that describe the structure and function of green plants. "Roots, Stems and Leaves" describes plant photosynthesis, showing, in simplified form, how water and carbon dioxide are broken down into elements that are then recombined to form glucose. This sequence also shows how root, stem and leaf structures each play a role in food manufacture. "X-treme Survival" explores adaptations in flower structure and seed production. The CD-ROM also includes brief sections of Student Information, Classroom Activities, and Assessment Questions.

**Note:**

- The limited scope of these additional sections and technical limitations in navigating the CD-ROM are weaknesses in this otherwise useful resource.

**Plate Tectonics: Earthquakes, Volcanoes and Mountains (Video and Guide)**  
*Earth Science Series*  
**Support Resource**

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓										

This video describes the composition of the earth's interior; differences between continental crust and oceanic crust; and various plate motions and how these affect earthquakes, volcanoes and mountains. The video uses a graphic model and animation sequences to explain and illustrate concepts and topics, including the formation of Surtsey Island in the Atlantic and the formation of row volcanoes and row islands along converging plates. Dramatic footage of volcanic eruptions is also included. The movement of plates along the San Andreas Fault is analyzed to account for past earthquakes and to make projections of land positions in the future. A formal style of presentation is used, with emphasis on scientific facts and detail.

**Pollution**

*National Geographic Geokit Series*  
**Authorized Teaching Resource**

© 1997

510992 \$403.30

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

Pollution is a growing threat to the environment and the earth's life support system. *Geo-Kit Pollution* explores the scientific basis and social causes of this global problem. Contamination of the air, water, and soil are all investigated and analyzed, showing sources of pollution, the effects, and what has been done to alleviate the impact. The resource shows that we are all part of the environmental solution through recycling, conservation, and wise use of resources. The kit consists of three videos, a teacher's guide, articles on "Pollution in the Everglades and Europe" and "Recycling," as well as maps and posters.



**Properties of Matter**  
*Physical Science in Action Series*  
Support Resource  
© 2000

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
		✓			✓									

This resource explores the physical properties of matter through the format of a young student on a field trip presenting what she has learned. The video first explains the concepts of matter and the atom. Once this foundation is established, the resource investigates phases of matter (explained in terms of atomic arrangement and movement of particles) and how matter behaves in the natural world. Physical properties of matter—such as mass, weight, volume and density—are presented. Common applications of density differences, such as hot air balloons, are identified. Important concepts and terms are defined and described through graphics and interpretive animations. Demonstrations are also used to illustrate concepts: for example, how density causes one liquid to float on another and how this can reverse with temperature change.

**Rocks and Minerals: NGS Picture Pack Transparencies** (includes Teacher's Guide and 40 Transparencies) **470500 \$91.20**  
*NGS Picture Pack Series*  
Authorized Teaching Resource  
© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓										

This teacher resource consists of 40 transparencies showing the diversity of rock and mineral forms found on Earth's surface. Close-up photographs of rock and mineral specimens are complemented by macro views of rock formations and artwork that shows how rocks form. Two transparencies are included on rocks from space, and several show the mining and use of minerals. A 12-page teacher's guide provides a background paragraph for each transparency and briefly outlines six mini-lessons based on use of the transparencies.

LRC Order No.: Est. Price:  
**449703 \$67.45**  
**449711 \$237.50**  
**451857 \$174.50**  
**508418 \$149.35**

- ScienceFocus 7 (Student Text)
- ScienceFocus 7: Teacher's Resource Binder (with Blackline Masters on CD-ROM) (Macintosh / Windows Version)
- ScienceFocus 7: Illustrations CD-ROM (Macintosh / Windows Version)
- ScienceFocus 7: Teacher's Productivity Package (Macintosh / Windows Version)

*ScienceFocus 7: Science • Technology • Society Series*

Basic / Authorized Teaching Resource

© 2001 Author(s): Gue, D. et al.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓	✓	✓	✓	✓										

This student book and teacher's resource binder provide direct support for the Alberta program of studies for Grade 7 Science. Together these resources provide a very extensive set of learning activities, and background readings for students and teachers. Numerous Canadian and Alberta examples are provided. The student text includes preview and review sections with each chapter, a science skills guide and a glossary of key terms. The teacher resource includes general sections on science safety, student assessment, course materials, and blackline masters, as well as detailed unit guides including an introduction, teacher background and instructional suggestions.

## The Scientific Method

Support Resource

© 2000

**510976 \$92.35**

**ACCESS—The Education Station / Regional Resource and Urban Media Centres**  
**BPN 2065501**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					

This resource presents nine steps in developing a theory using scientific method, and defines and explains different types of variables. Three individual investigations are used to show the scientific method in practice and highlight the individual steps. Pacing, examples and graphics are appropriate for a junior high audience. This resource could be used at the beginning of each unit of study to reintroduce students to the scientific method.



**Sea Otters**  
*Champions of the Wild Series*  
Support Resource  
© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This video presents a historical look at the sea otter, from its near-extinction due to over-hunting at the turn of the 20th century to its amazing return today through both natural processes and translocation programs to re-introduce the species to various sites of their natural habitat. The resource shows the effects of losing a valuable member of an ecosystem, and explains how re-introduction can bring the ecosystem back to normal.

**The Skeletal System (2nd Ed. Revised)**  
*Human Body Series*  
Support Resource  
© 1993

467820 \$57.30

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
			✓											

This video presents a general description of the human skeletal system and how it functions. Detailed animation and X-ray motion pictures trace the structure of the skeleton from head to foot, examining the bones in each region of the body and their contribution to the body as a whole. Additional animation and scenes of sports activities demonstrate the workings of different kinds of joints and their individual strengths and weaknesses.



**St. Lawrence River Belugas**  
**Champions of the Wild Series**  
**Support Resource**

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This video presents a history of beluga whales and how they interact with their environment in the St. Lawrence Seaway. The video traces the beluga from the turn of the century, when belugas were blamed for declining cod stocks, to the present day, when they are on the comeback from extinction. The video also discusses how toxins from nearby industries have impacted the beluga population, and how the increasing number of belugas suggests that clean-up efforts are working.

**482175 \$70.10**

**Succession**  
**Support Resource**

© 1994

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This resource presents biological succession as it occurs on a Lake Erie sand spit. The resource tells the story of the spit, beginning with the formation of the spit and an explanation of the forces that help shape it over time. The biological succession that follows starts with pioneer plants, including the russian thistle and seaside spurge, which stabilize the shifting sand and gradually make conditions suitable for a host of other plants and associated animals. The appearance of the cottonwood marks the beginning of another stage in the process, which ultimately leads to the climax community of cherry, oak, maple and hemlock trees. The resource combines a traditional narration style with extensive photography of the spit, as well as some animation sequences.

**Symbiosis: Nature's Delicate Balance**  
**Support Resource**  
 © 1995

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

Go on a quick tour of the world to see how human activity has imposed changes on the environment. Such changes have occurred throughout human history, many with long lasting effects still visible today. This video explores our relationship with the environment and how environmental changes produced by our interaction often have negative effects. The analysis leads the viewer to realize that we must change our ways to provide for better management of soils, toxic wastes and forests.

**Turning Down the Heat: The New Energy Revolution**  
**Support Resource**  
 © 1999

468034 \$46.70

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
		✓												

This video looks at the global impact of the burning of fossil fuels, providing concrete examples of the dangers of global warming. Examples of various renewable resource energy projects are profiled as economically viable solutions to these problems. Each section of the resource deals with a different power source, citing examples of the ways that various countries utilize it. Examples include solar energy projects in Holland, Japan, and California; biogas energy in Denmark and Vietnam; wind energy in Holland and India; and hydrogen fuel cells and ground source heat in Vancouver. The resource uses grade-appropriate vocabulary, and focuses on the economics of energy use and production in addition to environmental factors.

Note:

- Some portions of the video may be interpreted as portraying the Canadian government as being strongly pro-oil.



LRC Order No.: Est. Price:  
467797 \$46.70

# Volcano

## Eyewitness Series

### Support Resource

© 1996

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓										

This video, part of a series based on the EYEWITNESS books, provides students with live action photography and video footage of volcanoes and earthquakes. The program explains how and why volcanoes are formed, their destructive effects, and their role in creating new rocks and land. Students will learn how volcanoes and earthquakes are measured, the myths surrounding them, and how they have affected human life throughout history. The process of making the film and the use of special effects are presented at the end of the program. The video would be best used as an introduction, extension or summary.

# Water Erosion and Landforms (Video and Guide)

482183 \$70.10

## Earth Science Series

### Support Resource

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓					✓					

This video looks at water as the most powerful erosional force on Earth. The video begins with a distinction between weathering and erosion, leads into an animated description of the water cycle, then examines the erosion processes associated with glaciers, streams and rivers, and waterfalls. It presents some interesting visual examples of land forms shaped by water action and, with the use of effective animations, provides an interpretive explanation of their formation. The formation of V-shaped valleys of young rivers is explained, as is the formation of meanders and oxbow lakes connected with more mature streams. Some attention is given to sediment, floods, flood plains, as well as various means of controlling flooding. A summary of the major points and a final note about the constant evolution of land forms complete the video.



**What Are Glaciers?**  
*Earth, the Environment and Beyond Series*  
 Support Resource  
 © 1992

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓					✓					

This video introduces what a glacier is and how it forms, describes how and where glaciers move, and presents the history of glaciers. It also describes the effects of glacial erosion and the landform it creates.

**467812 \$57.30**

**What Are Volcanoes?**  
*Earth, the Environment and Beyond Series*  
 Support Resource  
 © 1992

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓										

This video provides a thorough explanation of volcanoes and volcanic action. It explores the origins of volcanoes, describes different types of volcanoes, and explains eruption processes. It also shows the location of volcanoes along the tectonic plates.

- Note:
- Distances are given in miles rather than kilometers.

# Why Wetlands? Education Kit

## Authorized Teaching Resource

© 1994

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓														

This resource lets students take a close look at what makes up a wetland ecosystem, discover the kinds of wetlands that exist, and understand why we should protect them. The kit provides extensive information about ecosystems, with a focus on the four wetland types in Ontario: marshes, swamps, bogs and fens. The resource explains the importance of these areas as vital habitats to hundreds of plant and animal species, some of which are endangered, as well as their role in maintaining water quality and water storage. It also explores why nearly 85% of wetland areas no longer exist, and what can be done to preserve what is left. The kit consists of 20 lessons and classroom-ready activities with student handouts. Also included are fact sheets on species at risk, "Life in an Ontario Wetland" and other posters, games and resource listings.

## The World of Plants

### Plant World Series

### Support Resource

© 2000

478299 \$192.90

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
	✓													

This video explores the great diversity of the plant world in order to answer the basic question "What makes a plant a plant?" The video describes the early history and origins of plants, and highlights the defining characteristics of nonvascular and vascular plants. Bryophytes, spore-producing plants, gymnosperms, and angiosperms are illustrated and explained using vivid images and colourful animation. The terminology and concepts discussed include algae, angiosperms, gymnosperms, bryophytes, cell wall, chlorophyll, photosynthesis, vascular and nonvascular.



# ALBERTA AUTHORIZED RESOURCE LIST and ANNOTATED BIBLIOGRAPHY

## Grade 8 Science






# GRADE 8

## Units A, B, C, D, E

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Basic Learning Resources</b>				
<b>Addison Wesley Science in Action 8 Series</b>				
Addison Wesley Science in Action 8 (Student Text) <i>Addison Wesley Science in Action 8 Series</i>	2001	Basic 8A / 8B / 8C / 8D / 8E	449670	\$68.30 LRC
Addison Wesley Science in Action 8: Teacher's Resource Package <i>Addison Wesley Science in Action 8 Series</i>	2001	Authorized Teaching 8A / 8B / 8C / 8D / 8E	449696	\$243.05 LRC
<b>ScienceFocus 8 Series</b>				
ScienceFocus 8: Science • Technology • Society (Student Text) <i>ScienceFocus 8 Series</i>	2001	Basic 8A / 8B / 8C / 8D / 8E	449729	\$67.45 LRC
ScienceFocus 8: Science • Technology • Society: Illustrations CD-ROM (Macintosh / Windows Version 4.0) <i>ScienceFocus 8 Series</i>	2001	Authorized Teaching 8A, 8B, 8C, 8D, 8E	451881	\$174.50 LRC
ScienceFocus 8: Science • Technology • Society: Teacher's Productivity Package (Macintosh / Windows Version 4.0) (includes Teacher's Resource; Blackline Masters; Illustrations) <i>ScienceFocus 8 Series</i>	2001	Authorized Teaching 8A, 8B, 8C, 8D, 8E	508400	\$149.35 LRC
ScienceFocus 8: Science • Technology • Society: Teacher's Resource Binder (with Blackline Masters on CD-ROM) (Windows/Macintosh) <i>ScienceFocus 8 Series</i>	2001	Authorized Teaching 8A / 8B / 8C / 8D / 8E	449737	\$237.50 LRC

# GRADE 8


## Unit A - Mix and Flow of Matter


Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
Mixtures and Solutions (Video; Teacher's Guide; Pre-Test; Post-Test) <i>Physical Science Series</i>	1998	Support 8A (Marlin Motion Pictures Ltd.)		Vendor Direct
Properties of Matter <i>Physical Science in Action Series</i>	2000	Support 7C / 8A	480905	\$76.00 LRC
The Scientific Method	2000	Support 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E	BPN 2065501	ACCESS-The Education Station
<b>Authorized Teaching Resources</b>				
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
Solutions	1990	Authorized Teaching 8A	414780	\$24.55 LRC



# GRADE 8


## Unit B - Cells and Systems

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
The Cell <i>Microorganisms Series</i>	2001	Support 8B	480038	\$192.90 LRC
Cell Processes <i>Microorganisms Series</i>	2001	Support 8B	480046	\$192.90 LRC
 Cells: The Building Blocks of Life <i>Survey of Science: Biology Essentials Series</i>	1996	Support 8B	BPN 2065601	ACCESS-The Education Station
Cells and Tissues <i>Science Key Concepts: Biology Series</i>	1998	Support 8B	478273	\$70.10 LRC
Human Body 1: Picture Show CD-ROM (Macintosh / Windows Version 4.0) <i>NGS PictureShow Series</i>	1998	Support 7D / 8B	467979	\$87.90 LRC
Human Body 2: Picture Show CD-ROM (Macintosh / Windows Version 4.0) <i>NGS PictureShow Series</i>	1998	Support 8B	467987	\$87.90 LRC
Introducing the Cell	1995	Support 8B	510934	\$104.05 LRC
Microscopic Life Forms <i>Animal Life and Beyond Series</i>	1998	Support 8B	479049	\$57.30 LRC
Respiration <i>Our Human Body Series</i>		Support 8B	479221	\$57.30 LRC
The Scientific Method	2000	Support 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E	BPN 2065501	ACCESS-The Education Station

<b>Authorized Teaching Resources</b>				
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
Human Body 1: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies) <i>NGS Picture Pack Series</i>	1998	Authorized Teaching 7D / 8B	467953	\$91.20 LRC
Human Body 2: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies) <i>NGS Picture Pack Series</i>	1998	Authorized Teaching 8B	467961	\$72.95 LRC
Human Body I: Circulatory, Respiratory, Digestive, and Immune Systems <i>National Geographic Geokit Series</i>	1997	Authorized Teaching 8B	467945	\$403.30 LRC
The World of Living Things (with Teacher's Guide) <i>Biology: The Science of Life Series</i>	2001	Authorized Teaching 8B	513368	\$34.95 LRC





# GRADE 8

## Unit C - Light and Optical Systems

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
The Scientific Method	2000	Support 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E	BPN 2065501	ACCESS-The Education Station
Waves (Video and Guide) <i>Science Key Concepts: Physics Series</i>	1998	Support 8C	482208	\$70.10 LRC
<b>Authorized Teaching Resources</b>				
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
Light and Optics: from Lenses to Polarisation: Containing over 16 Fully Interactive Simulations (Windows Version) <i>Physics Simulation Series</i>	2001	Authorized Teaching 8C Light and Optics (Single User) Light and Optics (5-User Labpack)	  469818 469826	LRC  \$88.85 \$177.70

# GRADE 8

## Unit D - Mechanical Systems

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
 Energy Machines and Motion: Student Guide and Source Book <i>Science and Technology Concepts for Middle Schools Series</i>	2000	Support 8D / 9D	522335	\$178.55 LRC
The Scientific Method	2000	Support 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E	BPN 2065501	ACCESS-The Education Station
<b>Authorized Teaching Resources</b>				
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
 Energy Machines and Motion: Teacher's Guide <i>Science and Technology Concepts for Middle Schools Series</i>	2000	Authorized Teaching 8D / 9D	522343	\$319.85 LRC
 Simple Machines (Videocassette with Teacher's Guide) <i>Motion, Energy and Force Series</i>	2000	Authorized Teaching 8D	485492	\$192.90 LRC





# GRADE 8

## Unit E - Freshwater and Saltwater Systems

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
Erosion <i>Bill Nye the Science Guy Series</i>	1998	Support 8E	BPN 855286	ACCESS-The Education Station
Lakes & Ponds <i>Bill Nye the Science Guy Series</i>	1998	Support 8E	BPN 855289	ACCESS-The Education Station
Marine Life <i>Animal Life and Beyond Series</i>	1998	Support 7A / 8E	479031	\$57.30 LRC
Oceans: Charting the Vastness <i>Survey of Science: Earth Science Essentials Series</i>	1996	Support 8E	510950	\$115.75 LRC
Pond & River <i>Eyewitness Series</i>	1996	Support 8E	467804	\$46.70 LRC
The Scientific Method	2000	Support 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E	BPN 2065501	ACCESS-The Education Station
Water Erosion and Landforms (Video and Guide) <i>Earth Science Series</i>	1998	Support 7E / 8E	482183	\$70.10 LRC
Wetlands Ecosystems II: Interactions and Ecosystems: Student Journal: Middle School Science Grades 7 to 8	1999	Support 8E	415481	\$7.00 LRC
What Are Glaciers? <i>Earth, the Environment and Beyond Series</i>	1992	Support 7E / 8E	467838	\$57.30 LRC

### Authorized Teaching Resources

 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
Dynamic Earth: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies) <i>NGS Picture Pack Series</i>	1998	Authorized Teaching 7E / 8E	470493	\$72.95 LRC
 Geology Explorer (Windows / Macintosh Version) <i>Earthstation Library Series</i>	2000	Authorized Teaching 7C / 7E / 8E	523028	\$92.60 LRC
Oceans <i>National Geographic Geokit Series</i>	1999	Authorized Teaching 8E	470518	\$403.30 LRC
Oceans - Climate Explorer (Windows / Macintosh Version) <i>Earthstation Library Series</i>	2000	Authorized Teaching 7A / 8E	472134	\$92.60 LRC
Wetlands Ecosystems II: Interactions and Ecosystems: Educator's Guide: Middle School Science Grades 7 to 8	1999	Authorized Teaching 8E	415499	\$7.00 LRC

# Grade 8: Annotated Bibliography (alphabetical listing)

LRC Order No.: Est. Price:  
449670 \$68.30  
449696 \$243.05

- Addison Wesley Science in Action 8 (Student Text)
- Addison Wesley Science in Action 8: Teacher's Resource Package

*Addison Wesley Science in Action 8 Series*

Basic / Authorized Teaching Resource

© 2001 Author(s): Booth, C. et al.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
					✓	✓	✓	✓	✓					

This student book and teacher's resource binder provide direct support for the Alberta program of studies for Grade 8 Science. Together these resources provide an extensive set of learning activities and planning tools for students and teachers. Numerous Canadian and Alberta examples are provided. The student text includes an introductory outline and summary review section with each chapter, a science toolbox for skill development and a glossary of key terms. The teacher resource includes general sections on skill developmental suggestions, student assessment, and lists of required materials and equipment. Detailed sections in each unit include an overview, instructional suggestions, and several sets of blackline masters targeting a range of instructional and assessment needs.

# Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)

434803 \$12.00

Authorized Teaching Resource

© 2000 Author(s): Agban, J. et al.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

This Canadian edition has been thoroughly revised in light of the *The Common Framework of Science Learning Outcomes* (Council of Ministers of Education Canada, 1997). This safety resource contains advice on such diverse topics as "Making Things," "Testing Things," "Food and Hygiene," "Heating and Burning," "Chemicals," "Electricity," "Animals," "Plants," "Micro-organisms," "Optical Instruments" and "Studies Out of School."

## The Cell

Microorganisms Series

Support Resource

© 2001

480038

\$192.90

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
						✓								

This video takes students on a journey through the microscopic world of the cell. The video explains that all living things are composed of cells, and highlights the difference between animal cells and plant cells. The video emphasizes the importance of cells in our daily lives, using real-life examples and applications. Students learn about the discovery of cells and the development of cell theory. Through colourful and engaging animations, the different parts of a cell are explained. Some of the terminology and concepts covered in this video include cell theory, organelles, cell wall, cell membrane, cytoplasm, mitochondria, ribosomes, nucleus, chromosomes, lysosomes, tissues, organ, and the differences between prokaryotic and eukaryotic cells.



**Cell Processes**  
**Microorganisms Series**  
**Support Resource**

© 2001

LRC Order No.: Est. Price:  
**480046 \$192.90**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
						✓								

In this program, students explore some of the important cell processes necessary for life. Vivid animation is used to clearly explain the process of cell growth and cell division. Using everyday examples, the video discusses how cells carry out the processes of diffusion, respiration, and osmosis. The different ways cells obtain, use and release energy are outlined. Terms and concepts covered in this video include: metabolism, respiration, diffusion, osmosis, chromatin, active transport, passive transport, mitosis, meiosis, asexual and sexual reproduction, and fermentation.

**Cells: The Building Blocks of Life**  
**Survey of Science: Biology Essentials Series**  
**Support Resource**

© 1996

**ACCESS—The Education Station / Regional Resource and Urban Media Centres**  
**BPN 2065601**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
						✓								

This video uses a series of short, concise segments to present the following concepts: the cell as the basic unit of life; single and multicellular organisms; specialization of cells; prokaryotic versus eukaryotic cells; and cellular structures (nucleus, organelles, nuclear membrane, cytoplasm, mitochondria, ER, ribosomes, golgi bodies, chloroplasts, cell membrane and cell walls) at a very basic level. The processes of diffusion, osmosis, and active transport are also described. The video addresses the use of cellular research in the area of cryobiology, and the medical advancements which have resulted. It also gives supplemental information on photosynthesis, cellular respiration, and enzyme/co-enzyme function. This resource covers a great breadth of concepts without going into too much detail. The computer generated graphics are visually appealing and assist student learning.

**Cells and Tissues**  
**Science Key Concepts: Biology Series**  
**Support Resource**

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
						✓								

This video consists of three major sections: "Animal Cells" (structures and tissue), "Plant Cells" (structures and tissue), and "Cell Division" (mitosis and meiosis). Each concept is illustrated by a variety of experiments that are too difficult or dangerous to be conducted in a school lab, as well as by live photography, microscopic photography of living cells, and computer animation. The video covers the differences between animal and plant cells, basic cellular components, and the definition of tissue (with specific examples from both plants and animals provided). There is a clear emphasis on the relationship between the function of a cell and its structure. The concepts of mitosis, meiosis, chromosomes, DNA, nucleic acids, and their relationships to sexual reproduction are clearly illustrated. The teacher's guide includes background information and suggestions for pre-viewing and extension activities. This resource would be an effective way to replace the in-class study of human cheek and blood cells.

**Note:**

- This video creates opportunity for discussion of why it is not appropriate to carry out hands-on studies of live human cells in the science classroom.

# Dynamic Earth: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies)

NGS Picture Pack Series

Authorized Teaching Resource

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓					✓					

This teacher resource provides a set of 40 transparencies that show evidence of the dynamic Earth, including illustrations of folding, faulting, volcanoes, plate movements, mountain formation, glaciation, erosion and deposition. The illustrations consist mainly of photographs, but artwork depicting and explaining crustal movements is also included. A teacher's guide provides a paragraph of background information on each transparency and briefly outlines six mini-lessons that are based on use of the transparencies.



LRC Order No.: Est. Price:  
 522335 \$178.55  
 (Pkg. of 4)  
 522343 \$319.85

- **Energy Machines and Motion: Student Guide and Source Book**
- **Energy Machines and Motion: Teacher's Guide**

*Science and Technology Concepts for Middle Schools Series*  
 Support / Authorized Teaching Resource  
 © 2000 Author(s): Hanson, C. et al.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
								✓					✓	

This activity-based resource teaches students about electrical energy, simple machines, and moving vehicles. The resource includes interesting details connected with these topics, as well as historical information on the scientific contributions made by well-known scientists such as Galileo, Volta, Davies, Edison, Newton and Watt. The concepts of force, work and power are presented, along with sample calculations. Mechanical advantage and efficiency of simple machines are also covered. The student guide includes background information, reading selections, safety tips, and step-by-step instructions to guide students through their classroom inquiries.

The guide supports teachers in using *Energy, Machines and Motion* in the classroom. The guide provides background material on science and pedagogy, guidance on the preparation and setup of kit materials, and detailed instructions for facilitating classroom science investigations. It also includes blackline masters, and assessment strategies, tools and scoring rubrics.

Note:

- Safety considerations will be an important factor in deciding which of the activities are suitable for independent and teacher-guided study.

**Erosion****Bill Nye the Science Guy Series****Support Resource**

© 1998

**ACCESS—The Education Station / Regional Resource and Urban Media Centres**  
**BPN 855286**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
									✓					

In this video, Bill Nye explains how wind, water and other agents of erosion help shape the earth's surface, emphasizing that erosion is a long and continuing process. Erosive processes are examined in the field, and then further explored through laboratory demonstrations of freeze-thaw action and chemical erosion. As he takes viewers on a tour of different landscapes, Nye points out evidence of erosion found in mountain, desert and coastal land forms.

Note:

- The video includes several rock music segments.

**Geology Explorer (Windows / Macintosh Version)**  
**Earthstation Library Series**

**Authorized Teaching Resource**

© 2000

**523028**      **\$92.60**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
		✓		✓					✓					

*Geology Explorer* is a multimedia study of planet Earth from core to crust. Lessons cover topics such as rocks and minerals, weathering and plate tectonics, all through the perspective of earth scientists. The resource contains approximately 600 MB of educational content, including hundreds of photographs, detailed captions and text, digital video, 3D animations, charts, music, sound effects, and narration. In addition, the CD-ROM includes interactive exercises and projects such as virtual experiments, demonstrations, mini-games and puzzles. Multiple choice tests, a sample lesson on plate tectonics, an extensive glossary and a connection to EOA Scientific Systems Inc.'s *Earth Station Internet Campus* are included. A teacher's manual and user's guide are also provided on the CD-ROM.



# Human Body 1: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies)

## NGS Picture Pack Series

### Authorized Teaching Resource

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
			✓			✓								

This resource is a visual library of images illustrating several human body systems. It explains the basic components and functions of the skeletal, muscular, nervous, and endocrine systems. The kit includes 40 overhead transparencies and a teacher's guide with captions and activities.

# Human Body 1: Picture Show CD-ROM (Macintosh / Windows Version 4.0)

## NGS PictureShow Series

### Support Resource

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
			✓			✓								

This CD-ROM consists of two self-contained shows that introduce the basic components and functions of the skeletal, muscular, nervous, and endocrine systems. In "Bones and Muscles," students can explore the skeletal framework that supports the body and the muscular system that allows the body to move and manipulate objects. In "Nervous and Endocrine Systems," they can discover the complex communication systems that link and control all the body functions and give us the ability to think and create. The resource also explains how these systems gather information through our senses, analyze the information, and then take action. This resource includes more than 100 images, music, narration and read-along text, a student guide, classroom activities and a user's guide.



# Human Body 2: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies)

## NGS Picture Pack Series

### Authorized Teaching Resource

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
						✓								

This PicturePack resource is a visual library of images illustrating how the body processes and uses energy. It explores the cells of the human body and how they function in the circulatory, digestive, and respiratory systems. The kit consists of 40 overhead transparencies and a teacher's guide with captions and activities.

## Human Body 2: Picture Show CD-ROM (Macintosh / Windows Version 4.0)

### NGS PictureShow Series

### Support Resource

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
						✓								

This CD-ROM consists of two self-contained shows that introduce basic concepts related to the use and processing of energy by the human body. In "Cells and Circulation" students discover how our cells get a constant supply of food and oxygen through our circulatory system. They can find out why there is constant activity in all living cells and follow the flow of blood throughout the body to see how the heart is at the center of it all. In "Respiration and Digestion" students explore the things that the body does to nourish itself, learning how the respiratory system delivers oxygen to the blood and gets rid of carbon dioxide. This resource includes more than 100 images, music, narration and read-along text, a student guide, classroom activities and assessments sheets, and a user's guide.

# Human Body I: Circulatory, Respiratory, Digestive, and Immune Systems

## National Geographic Geokit Series

### Authorized Teaching Resource

© 1997

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
						✓								

This comprehensive kit explores the human body, focusing on the circulatory, respiratory, digestive, and immune systems through a variety of learning activities. The kit allows students to examine the structures and functions of major organs such as the heart, lungs and stomach, and learn about the anatomy, physiology and functions of the immune system. Three videos provide in-depth information on "Circulatory and Respiratory Systems," "Digestive System," and "Our Immune System." The kit also includes maps, colour transparencies, student handouts, trivia cards, National Geographic magazine articles, and a teacher's guide. The teacher's guide provides an overview, background information, a glossary, assessment suggestions, and other resources. Each section of the guide incorporates a K,W,L (What I Know, What I Want to Know, What I Learned) strategy, along with a number of hands-on activities. Inquiry-based lab and Internet activities let students develop their understanding of scientific process. A review test with 35 short-answer questions is also included.

Note:

- Because of the quantity and depth of materials, teachers will have to choose only a selection of activities in order to finish the unit within a reasonable time.

510934 \$104.05

## Introducing the Cell

Support Resource

© 1995

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
						✓								

This video introduces the cell as the basic unit of life common to all organisms. Plant and animal cells are shown and compared using microscopes and clearly illustrated drawings. Various cell components are discussed with multiple analogies that clarify the functions of each part. Cell differentiation is discussed with reference to the human body and its epidermal muscle, white and red blood cells, nerve and bone cells. A 10-question multiple-choice quiz is included with the video.



**Lakes & Ponds****Bill Nye the Science Guy Series****Support Resource**

© 1998

**ACCESS—The Education Station / Regional Resource and Urban Media Centres**  
**BPN 855289**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
									✓					

In this video, Bill Nye explains how lakes and ponds are formed, and how rain, rivers, waterfalls and underground aquifers are part of a larger system of water flow—both above and below ground. Later, Nye describes the diverse sizes and shapes of water bodies found around Earth and the variety of living things found in them. The movement of pollutants through water is introduced, followed by a brief description of pollution's impacts on freshwater organisms. A short, point-form summary and a song by "The Froggy Boyz" are also included.

**Light and Optics: from Lenses to Polarisation: Containing over 16 Fully Interactive Simulations (Windows Version)**

*Physics Simulation Series***Authorized Teaching Resource**

© 2001

**469818**      **\$88.85**  
**(Single User)**

**469826**      **\$177.70**  
**(5-User)**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
							✓							

This CD-ROM provides a set of simulations that show how light beams interact with a variety of optical components including plane mirrors, spherical mirrors, convex lenses, systems of two lenses, telescopes, microscopes, the human eye, and diffraction gratings. The program is suitable for classroom demonstrations in which students are asked to predict, and then observe, the effect of a change to an optical setup.

Note:

- Although primarily suited for use as a teacher demonstration tool, this resource may also be suitable for direct use by the more capable student.



**Marine Life**  
*Animal Life and Beyond Series*  
 Support Resource  
 © 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓									✓					

This video describes the diversity of living things found in ocean environments. Examples of pelagic organisms (surface dwelling and free swimming) and benthic organisms (bottom dwelling) are shown. Key features of marine environments are described, and adaptations to those environments are illustrated and explained.

**479049 \$57.30**

**Microscopic Life Forms**  
*Animal Life and Beyond Series*  
 Support Resource  
 © 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
						✓								

This video introduces students to three forms of microscopic life: monera, protista and fungi. The video identifies representative organisms from each of the kingdoms, and shows general characteristics of each group using high magnification video sequences and computer animations. Reproduction of bacteria and other microorganisms in the environment, as well as the role of bacteria in human health, is described. This video is short, fast paced and conveys information in an accessible manner.

# Mixtures and Solutions (Video; Teacher's Guide; Pre-Test; Post-Test)

## Physical Science Series

### Support Resource

© 1998

Marlin Motion Pictures Ltd.; 211 Watline Avenue, MISSISSAUGA ON L4Z 1P3

Telephone: 888-260-2232; 905-890-1500 Internet: <http://www.marlineducation.com>

Vendor Direct

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
					✓									

This video provides a basic overview of concepts related to the mixture and flow of matter. The emphasis is on the classification of various types of mixtures. Topics covered include mixtures, homogeneous versus heterogeneous, colloids, suspensions, solutions, solutes and solvents, solubility, saturated versus unsaturated, and solubility graphs. The video presents the concepts in related groupings, providing a visual definition as each new concept is introduced. Blackline masters include pre- and post-viewing tests, a video quiz, experiments, a word search, discussion questions, and an Internet lesson. The teacher's guide provides a script of the narration and suggestions for integrating the blackline masters and video to form lessons.

#### Note:

- The video does not provide particle theory explanations for all of the concepts that are introduced.
- The demonstration of factors affecting solubility shows stirring occurring as part of the surface area demonstration and the temperature demonstration. This can be explained as being a controlled variable in the experimental process.
- Solubility graphs for copper (II) sulphate and dissolved oxygen are shown in a non-standard format. The manipulated variable, temperature, is shown on the y axis and the responding variable, the amount of solute dissolved, is shown on the x axis.



**Oceans**  
**National Geographic Geokit Series**  
**Authorized Teaching Resource**

© 1999

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
									✓					

This resource is a comprehensive multimedia kit on oceans, including transparencies, student articles for reproduction, a set of trivia cards, a map, a poster, a 115-page teacher guide, and three videos titled "Oceans in Motion," "The Living Ocean," and "Half a Mile Down." The resource introduces the physical characteristics of oceans and provides a broad survey of oceans as ecosystems, covering such topics as the sea floor, tides, waves, currents, climate, icebergs, coral reefs, biomes and ocean pollution. Outlines for several challenging activities are included. Activity outlines provide background, objectives, preparations, procedures and sample student data pages.

**Oceans: Charting the Vastness**  
**Survey of Science: Earth Science Essentials Series**  
**Support Resource**

© 1996

510950 \$115.75

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓					✓					

Oceans cover over 70% of the earth's surface and have a significant influence on the planet's geology, life, and climate. This video explores the geology of the ocean floor, the composition of ocean water, the dynamics of ocean currents and tides, the formation of shoreline features, and the influence of the ocean on weather patterns. Effective animation is used to illustrate tide formation. The video also outlines the diversity of marine life in tidal pools, estuaries, kelp forests, and around deep sea vents. The video closes with a look at oil, gas and other resources and their extraction from below the sea.



**Oceans - Climate Explorer (Windows / Macintosh Version)**  
**Earthstation Library Series**  
**Authorized Teaching Resource**

© 2000

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓									✓					

This interactive multimedia resource focuses on oceanography and meteorology, providing a comprehensive exploration of the relationships between water and Earth's climate. Over 600 MB of exercises, images, videos, games, experiments, demos and puzzles are included in the program. The video clips cover topics ranging from the structure of the ocean to human activities and climate. An extensive glossary is also provided.

Note:

- This is a resource for teachers, but is also suitable as a reference source for more advanced students.

**Pond & River**  
**Eyewitness Series**  
**Support Resource**  
© 1996

467804 \$46.70

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
									✓					

This video, part of a series based on the EYEWITNESS books, provides students with live action photography and video footage of the freshwater habitats of ponds and rivers. The program explores how rivers and ponds form; examines water quality, river flow, erosion and deposition; and describes plant and animal interactions, biodiversity and adaptations in river and pond environments. The video also includes segments addressing the roles of rivers and ponds in human history and societies. The process of making the film and the use of special effects are presented at the end of the tape.

Note:

- Different cultural/religious beliefs about rivers are briefly described.

**Properties of Matter**  
*Physical Science in Action Series*  
**Support Resource**

© 2000

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
		✓			✓									

This resource explores the physical properties of matter through the format of a young student on a field trip presenting what she has learned. The video first explains the concepts of matter and the atom. Once this foundation is established, the resource investigates phases of matter (explained in terms of atomic arrangement and movement of particles) and how matter behaves in the natural world. Physical properties of matter—such as mass, weight, volume and density—are presented. Common applications of density differences, such as hot air balloons, are identified. Important concepts and terms are defined and described through graphics and interpretive animations. Demonstrations are also used to illustrate concepts: for example, how density causes one liquid to float on another and how this can reverse with temperature change.

**Respiration**  
*Our Human Body Series*  
**Support Resource**

479221 \$57.30

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
						✓								

This video provides a focused, easy to follow look at the basics of breathing. It begins by introducing the concepts of aerobic and anaerobic respiration and their purposes for the organism. It then gives an effective overview of the various methods that organisms use to carry out respiration, beginning with simple structures and progressing to complex systems for respiration. Examples include direct diffusion, cutaneous respiration, bronchial respiration, tracheal respiration and the human respiratory tract. The video uses appropriate graphics and visual cueing to enhance students' understanding of the concepts.

Note:

- There are several non-metric references made to lung and breath capacities.



- **ScienceFocus 8 (Student Text)**
- **ScienceFocus 8: Teacher's Resource Binder (with Blackline Masters on CD-ROM)**  
(Macintosh / Windows Version) **\$67.45**
- **ScienceFocus 8: Teacher's Productivity Package (Macintosh / Windows Version 4.0) (includes Teacher's Resource; Blackline Masters; Illustrations)** **\$237.50**
- **ScienceFocus 8: Illustrations CD-ROM (Macintosh / Windows Version 4.0)** **\$149.35**
- **ScienceFocus 8: Science • Technology • Society Series** **\$174.50**

**Basic / Authorized Teaching Resource**

© 2001 Author(s): Edwards, L. et al.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					

This student book and teacher's materials provide direct support for the Alberta program of studies for Grade 8 Science. Together these resources provide a very extensive set of learning activities, and background readings for students and teachers. Numerous Canadian and Alberta examples are provided. The student text includes preview and review sections with each chapter, a science skills guide and a glossary of key terms. The teacher resource includes general sections on science safety, student assessment, course materials, and blackline masters, as well as detailed unit guides including an introduction, teacher background and instructional suggestions.

## The Scientific Method

Support Resource

© 2000

510976 \$92.35

ACCESS—The Education Station / Regional Resource and Urban Media Centres

BPN 2065501

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					

This resource presents nine steps in developing a theory using scientific method, and defines and explains different types of variables. Three individual investigations are used to show the scientific method in practice and highlight the individual steps. Pacing, examples and graphics are appropriate for a junior high audience. This resource could be used at the beginning of each unit of study to reintroduce students to the scientific method.



**Simple Machines (Videocassette with Teacher's Guide)**  
**Motion, Energy and Force Series**  
**Authorized Teaching Resource**

© 2000

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
								✓						

Our world is full of simple machines that aid in our daily routines. This video identifies common, everyday simple machines, and demonstrates their practical use. Work and power are defined and calculated in real-life applications that illustrate mechanical advantage and efficiency. Machines discussed include levers, inclined planes, pulleys, wheel and axle, screws, and wedges.

**Solutions**

414780 \$24.55

**Authorized Teaching Resource**

© 1990 Author(s): Marson, R.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
					✓									

This teacher resource book provides background information, lesson outlines and blackline masters for 28 learning activities on chemical solutions, suitable for Grade 8. Topics developed in this resource include rate of dissolving, solubility curves, filters, distillation, water purification, water of hydration, and the interaction of oil and water. Reproducible student activity cards are included. Key steps in the activities are outlined and illustrated.

**Water Erosion and Landforms (Video and Guide)**  
**Earth Science Series**  
**Support Resource**  
© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓					✓					

This video looks at water as the most powerful erosional force on Earth. The video begins with a distinction between weathering and erosion, leads into an animated description of the water cycle, then examines the erosion processes associated with glaciers, streams and rivers, and waterfalls. It presents some interesting visual examples of land forms shaped by water action and, with the use of effective animations, provides an interpretive explanation of their formation. The formation of V-shaped valleys of young rivers is explained, as is the formation of meanders and oxbow lakes connected with more mature streams. Some attention is given to sediment, floods, flood plains, as well as various means of controlling flooding. A summary of the major points and a final note about the constant evolution of land forms complete the video.

**Waves (Video and Guide)**  
**Science Key Concepts: Physics Series**  
**Support Resource**  
© 1998

482208 \$70.10

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
							✓							

This short video deals with the transfer of energy in the form of waves, including sea waves, laser light waves, earthquakes, and the natural frequency of waves in a bridge. The video explains wavelength and frequency of waves, as well as the difference between transverse and longitudinal waves. Effective animations are used to demonstrate each type and to show that the medium oscillates in one place but the energy is passed along. Reflection of waves, including light, is demonstrated, and the application of this property is shown in a variety of situations. Demonstrations of light refraction are also presented and discussed. Total internal reflection of light within an optic fiber is described, along with applications of this property in today's global communications systems.



- Wetlands Ecosystems II: Interactions and Ecosystems: Student Journal: Middle School      415481      \$7.00  
 Science Grades 7 to 8
- Wetlands Ecosystems II: Interactions and Ecosystems: Educator's Guide: Middle School      415499      \$7.00  
 Science Grades 7 to 8

*Wetlands Ecosystems II: Interactions and Ecosystems Series*

Support / Authorized Teaching Resource

© 1999

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
									✓					

This student manual and teacher manual were developed to support the study of wetland ecosystems by Alberta students in Grade 8. Linked to the accompanying teacher manual, the student manual provides background information, illustrations and space for students to enter specific observations, information and analysis. Each of the 14 activities outlined in the teacher manual are correlated to the Alberta program of studies and include a vocabulary list, learning outcomes, a materials list, and a description of the activity. The manual also contains blackline masters that illustrate the classification of wetland organisms and provide guidance in some specific techniques. Both classroom and field activities are described in this guide. Changes to this new edition include editing the resource to improve its clarity and conciseness, rephrasing the learner outcomes to align with the Pan-Canadian Science Framework, deleting two lessons, and reformatting the student book to standard letter size.

## What Are Glaciers?

*Earth, the Environment and Beyond Series*

Support Resource

© 1992

467838      \$57.30

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
				✓					✓					

This video introduces what a glacier is and how it forms, describes how and where glaciers move, and presents the history of glaciers. It also describes the effects of glacial erosion and the landform it creates.



**The World of Living Things (with Teacher's Guide)**  
**Biology: The Science of Life Series**  
**Authorized Teaching Resource**

© 2001

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
						✓								

This video explores the question "What is life?" Viewers will learn what characteristics are shared by all living things and the significance of each to life itself. They can then explore the great variety of life forms on Earth and discover how they are grouped into five kingdoms. This video provides a brief description of each kingdom and gives examples of organisms that belong to each group. It culminates with a True-False quiz as a review of the major concepts covered.





# ALBERTA AUTHORIZED RESOURCE LIST and ANNOTATED BIBLIOGRAPHY

## Grade 9 Science

**Alberta**  
LEARNING

Learning and Teaching Resources Branch










# GRADE 9

## Units A, B, C, D, E

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Basic Learning Resources</b>				
<b>Addison Wesley Science in Action 9 Series</b>				
Science in Action 9 (Student Text) <i>Addison Wesley Science in Action 9 Series</i>	2002	Basic 9A / 9B / 9C / 9D / 9E	470675	\$73.05 LRC
Science in Action 9: Teacher's Resource Package <i>Addison Wesley Science in Action 9 Series</i>	2002	Authorized Teaching 9A / 9B / 9C / 9D / 9E	470683	\$233.80 LRC
<b>ScienceFocus 9 Series</b>				
ScienceFocus 9: Science • Technology • Society (Student Text) <i>ScienceFocus 9 Series</i>	2002	Basic 9A / 9B / 9C / 9D / 9E	470625	\$68.05 LRC
ScienceFocus 9: Science • Technology • Society: Blackline Masters CD-ROM (Macintosh / Windows Version) <i>ScienceFocus 9 Series</i>	2002	Authorized Teaching 9A / 9B / 9C / 9D / 9E	470732	\$174.75 LRC
ScienceFocus 9: Science • Technology • Society: Teacher's Resource Binder (includes Teacher's Resource CD-ROM (Macintosh / Windows Version)) <i>ScienceFocus 9 Series</i>	2002	Authorized Teaching 9A / 9B / 9C / 9D / 9E	470633	\$116.85 LRC

# GRADE 9



## Unit A - Biological Diversity

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
Animal Adaptation	1996	Support 9A	510843	\$70.10 LRC
Animal Adaptations <i>Animal Life in Action Series</i>	2000	Support 9A	510918	\$76.00 LRC
Return of the Peregrine	2001	Support 9A / 9C	BPN 2044801	ACCESS-The Education Station
 Right Whales <i>Champions of the Wild Series</i>	1998	Support 9A	520892	\$46.70 LRC
 Swift Foxes <i>Champions of the Wild Series</i>	1998	Support 9A	520909	\$46.70 LRC
<b>Authorized Teaching Resources</b>				
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
 Genetics: The Molecular Basis of Heredity (with Teacher's Guide) <i>Elements of Biology Series</i>	2002	Authorized Teaching 9A	525090	\$70.10 LRC
 Habitats: Realm of the Tiger <i>National Geographic Geokit Series</i>	1998	Authorized Teaching 9A	506199	\$403.30 LRC
Nelson Science 9: Computerized Assessment Bank (Macintosh / Windows Version 1.0) <i>Nelson Science 9 Series</i>	2000	Authorized Teaching 9A, 9B, 9D, 9E	508450	\$270.35 LRC
Nelson Science 9: Transparencies <i>Nelson Science 9 Series</i>	2000	Authorized Teaching 9A, 9B, 9D, 9E	508468	\$270.35 LRC



# GRADE 9


## Unit B - Matter and Chemical Change

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
 Reactivity of Elements <i>Science Key Concepts: Chemistry Series</i>		Support 9B	513243	\$34.95 LRC
<b>Authorized Teaching Resources</b>				
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
Nelson Science 9: Computerized Assessment Bank (Macintosh / Windows Version 1.0) <i>Nelson Science 9 Series</i>	2000	Authorized Teaching 9A, 9B, 9D, 9E	508450	\$270.35 LRC
Nelson Science 9: Transparencies <i>Nelson Science 9 Series</i>	2000	Authorized Teaching 9A, 9B, 9D, 9E	508468	\$270.35 LRC

# GRADE 9




## Unit C - Environmental Chemistry

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
Investigating Water Pollutants (Kit)	1999	Support 9C	510447	\$102.90 LRC
Return of the Peregrine	2001	Support 9A / 9C	BPN 2044801	ACCESS-The Education Station

<b>Authorized Teaching Resources</b>				
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC

# GRADE 9



## Unit D - Electrical Principles and Technologies

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
Electricity: How It Works	2000	Support 9D	510926	\$92.35 LRC
Electricity: The Invisible River of Energy (Macintosh / Windows Version 2.0) <i>AIMS Interactive Science Essentials Series</i>	1997	Support 9D	511081	\$35.05 LRC
 Energy Machines and Motion: Student Guide and Source Book <i>Science and Technology Concepts for Middle Schools Series</i>	2000	Support 8D / 9D	522335	\$178.55 LRC
<b>Authorized Teaching Resources</b>				
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
 Energy Machines and Motion: Teacher's Guide <i>Science and Technology Concepts for Middle Schools Series</i>	2000	Authorized Teaching 8D / 9D	522343	\$319.85 LRC
Nelson Science 9: Computerized Assessment Bank (Macintosh / Windows Version 1.0) <i>Nelson Science 9 Series</i>	2000	Authorized Teaching 9A, 9B, 9D, 9E	508450	\$270.35 LRC
Nelson Science 9: Transparencies <i>Nelson Science 9 Series</i>	2000	Authorized Teaching 9A, 9B, 9D, 9E	508468	\$270.35 LRC



# GRADE 9

## Unit E - Space Exploration

Series / Title	Copyright Date	Status / Unit(s)	LRC Order No.	Price
<b>Support Learning Resources</b>				
Out of Sight: A Study of Life and Physical Phenomena in Space <i>Science Links Series</i>	2000	Support 9E	508442	\$9.90 LRC
Stars and Galaxies (Macintosh / Windows Version) <i>NGS PictureShow Series</i>	1998	Support 9E	509052	\$109.90 LRC
Turn Left at Alpha Centauri <i>Science Links Series</i>	1998	Support 9E	508434	\$9.90 LRC
<b>Authorized Teaching Resources</b>				
 Astronomy <i>National Geographic Geokit Series</i>	1998	Authorized Teaching 9E	506181	\$403.30 LRC
 Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)	2000	Authorized Teaching General / 7A / 7B / 7C / 7D / 7E / 8A / 8B / 8C / 8D / 8E / 9A / 9B / 9C / 9D / 9E	434803	\$12.00 LRC
The Earth, Moon & Sun with Paper Plates, Bottles, Tennis Balls and Simple Things	1993	Authorized Teaching 9E	415051	\$30.40 LRC
Nelson Science 9: Computerized Assessment Bank (Macintosh / Windows Version 1.0) <i>Nelson Science 9 Series</i>	2000	Authorized Teaching 9A, 9B, 9D, 9E	508450	\$270.35 LRC
Nelson Science 9: Transparencies <i>Nelson Science 9 Series</i>	2000	Authorized Teaching 9A, 9B, 9D, 9E	508468	\$270.35 LRC
Solar System: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies) <i>NGS Picture Pack Series</i>	1998	Authorized Teaching 9E	509078	\$91.20 LRC
Stars and Galaxies: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies) <i>NGS Picture Pack Series</i>	1998	Authorized Teaching 9E	509060	\$91.20 LRC

# Grade 9: Annotated Bibliography (alphabetical listing)

LRC Order No.: Est. Price:  
470675 \$73.05  
470683 \$233.80

- Addison Wesley Science in Action 9 (Student Text)
- Addison Wesley Science in Action 9: Teacher's Resource Package

*Addison Wesley Science in Action 9 Series*

Basic / Authorized Teaching Resource

© 2002 Author(s): Mah, K. et al.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
										✓	✓	✓	✓	✓

This student book provides direct support for the Alberta program of studies for Grade 9 Science. It presents concept development and scientific facts relevant to the program, and an extensive set of learning activities for students. Each chapter includes an introductory outline, an overview, a summary review section, a science toolbox for skill development, and a glossary of key terms. Numerous Canadian and Alberta examples are included.

## Animal Adaptation

## Support Resource

© 1996

510843

\$70.10

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
										✓				

This program defines and provides multiple examples of animal adaptation to various environments. Features that help an organism survive in aquatic and terrestrial environments are illustrated from simple to complex animals, with reference to structural, functional and behavioural adaptations. The resource draws on ideas of Darwinian evolution in interpreting various phyla from simple cnidarian to more complex vertebrates, and in explaining specific adaptations related to gas exchange, temperature regulation, and body support. Teacher resource materials for pre- and post-viewing are provided on a single supplementary page.

**Animal Adaptations (Video with Teacher's Guide)**  
**Animal Life in Action Series**  
**Support Resource**

© 2000 Author(s): Bense, P. (Teacher's Guide)

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
										✓				

This video presents a wide variety of animal adaptations, from the giraffe's long neck to the hummingbird's ability to fly backwards, in a fast-paced, informative format. A teacher's guide outlines pre- and post-viewing activities and discussion questions. The video touches on sexual reproduction, diversity within species, natural versus artificial selection, and how characteristics are passed from generation to generation.

**Astronomy**

**National Geographic Geokit Series**  
**Authorized Teaching Resource**

© 1998

506181 \$403.30

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
														✓

This multimedia kit is a comprehensive resource on astronomy that includes transparencies, three videos, student articles for reproduction, a set of trivia cards, a map, a poster, and a 115-page teacher guide. The resource provides a broad survey of the major concepts of astronomy: celestial bodies, technological developments such as the Galileo probe and the Hubble telescope, and the history and myths surrounding the stars. Lesson plans are provided to develop concepts, with objectives and assessment ideas included. The videos are titled "Exploring Our Solar System," "Stars and Constellations," and "Sun, Earth, Moon."



# Be Safe! A Health and Safety Reference for Science and Technology Curriculum: K-9 (Canadian Edition)

434803 \$12.00

Authorized Teaching Resource

© 2000 Author(s): Agban, J. et al.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

This Canadian edition has been thoroughly revised in light of the *The Common Framework of Science Learning Outcomes* (Council of Ministers of Education Canada, 1997). This safety resource contains advice on such diverse topics as "Making Things," "Testing Things," "Food and Hygiene," "Heating and Burning," "Chemicals," "Electricity," "Animals," "Plants," "Micro-organisms," "Optical Instruments" and "Studies Out of School."

## The Earth, Moon & Sun with Paper Plates, Bottles, Tennis Balls and Simple Things

415051 \$30.40

Authorized Teaching Resource

© 1993 Author(s): Marson, R.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
														✓

This well-illustrated teacher resource book provides background information, lesson outlines and blackline masters for 20 learning activities on Earth, moon and sun. Topics developed in this resource include the development and interpretation of models, and a variety of techniques for measuring and describing position and motion of bodies observed in the day and night sky. Blackline masters include simple tools for measuring and recording elevation and azimuth of objects observed.

LRC Order No.: Est. Price:  
510926 \$92.35

**Electricity: How It Works**  
Support Resource  
© 2000

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
													✓	

This Australian-produced video shows that basic electrical principles remain constant regardless of where you are in the world. Topics covered include static and current electricity, electron pumps (devices that cause electrons to move, such as wet cells, generators, thermocouples and photovoltaics) and a brief description of alternating current, direct current and how diodes can be used. The video demonstrates general electrical principles, but does not explore any one area in detail.

**Electricity: The Invisible River of Energy** (Macintosh / Windows Version 2.0)  
*AIMS Interactive Science Essentials Series*

511081 \$35.05

Support Resource  
© 1997

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
													✓	

This dual platform (Macintosh and Windows) CD-ROM offers a general overview of how electricity works. The resource discusses the following topics: static electricity, current electricity, conductors, voltage, circuits (series and parallel), resistance (Ohms and amperes), switches, circuit breakers, watts, magnetic fields, light, heat, and motors. The CD is set up as a QuickTime video with demonstrations of each concept. A glossary of terms is included and directly linked to the video: when you check a term in the glossary, the QuickTime video automatically starts at the relevant point. A quiz (with immediate feedback) and a test (with feedback at end of the test) are provided. The resource is easily navigated, with a menu of options on the left hand side. Icons are large and easily understood. This resource could be used individually, or with a group using a projector.



LRC Order No.: Est. Price:  
**522335 \$178.55**  
**(Pkg. of 4)**  
**522343 \$319.85**

- **Energy Machines and Motion: Student Guide and Source Book**
- **Energy Machines and Motion: Teacher's Guide**

*Science and Technology Concepts for Middle Schools Series*  
 Support / Authorized Teaching Resource  
 © 2000 Author(s): Hanson, C. et al.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
								✓					✓	

This activity-based resource teaches students about electrical energy, simple machines, and moving vehicles. The resource includes interesting details connected with these topics, as well as historical information on the scientific contributions made by well-known scientists such as Galileo, Volta, Davies, Edison, Newton and Watt. The concepts of force, work and power are presented, along with sample calculations. Mechanical advantage and efficiency of simple machines are also covered. The student guide includes background information, reading selections, safety tips, and step-by-step instructions to guide students through their classroom inquiries.

The guide supports teachers in using *Energy, Machines and Motion* in the classroom. The guide provides background material on science and pedagogy, guidance on the preparation and setup of kit materials, and detailed instructions for facilitating classroom science investigations. It also includes blackline masters, and assessment strategies, tools and scoring rubrics.

Note:

- Safety considerations will be an important factor in deciding which of the activities are suitable for independent and teacher-guided study.



# Genetics: The Molecular Basis of Heredity (with Teacher's Guide) Elements of Biology Series

## Authorized Teaching Resource

© 2002 Author(s): Freeman, B. (Teacher's Guide)

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
										✓				

This resource provides a comprehensive look at genetics in an engaging 20-minute video. The video is broken up into sections on DNA, chromosomes, genes, mitosis, meiosis, patterns of inheritance, mutations, and cell differentiation. The accompanying teacher's guide includes excellent blackline masters to support the video. A complete transcript is also provided to support students of varying abilities. At the end of the video, a quiz is presented to check for student understanding.

## Habitats: Realm of the Tiger National Geographic Geokit Series

## Authorized Teaching Resource

© 1998

506199 \$403.30

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
										✓				

*Habitats: Realm of the Tiger* introduces students to the biology and ecology of the tiger. This is an integrated teaching package with connections to science, social studies, language arts and mathematics. The complete kit requires a minimum of ten 60-minute lessons to complete; however, it can be used in segments. All lessons require some teacher preparation, but instructions are easy to follow. Overviews, lessons, color overheads, posters, blackline masters, and videos are all included. This resource could provide an alternate context to cover most of the outcomes related to biodiversity.

# Investigating Water Pollutants (Kit)

## Support Resource

© 1999

LRC Order No.: Est. Price:  
510447 \$102.90

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
												✓		

This comprehensive kit includes detailed student and teacher guides, along with enough materials for ten groups to test two water samples for each of seven factors (Cl, Cu, phosphates, dissolved O<sub>2</sub>, nitrates, hardness and pH). Unknown water samples are included to ensure positive tests for various pollutants. The kit is an easy-to-use, skills-based resource. A 1-800 number is provided for technical support.

- **Nelson Science 9: Computerized Assessment Bank (Macintosh / Windows Version 1.0)** 508450 \$270.35
- **Nelson Science 9: Transparencies** 508468 \$270.35

## Nelson Science 9 Series

### Authorized Teaching Resource

© 2000 Author(s): Plumb, D. et al.

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
										✓	✓		✓	✓

This user-friendly CD-ROM program contains 1,000 questions to support the Nelson Science 9 student text, covering concepts related to matter, reproduction, electricity and space. Features include "Build A Test," "Random Test Generator" and a comprehensive assessment guide with an assessment philosophy and skills-based rubrics provided. Multiple choice, short answer, extended answer, and performance tasks are included, and can be easily edited. Questions are rated by achievement category and correlated with the Ontario science curriculum, which can be easily related to the Alberta program. The software will run with most word processors (Mac or PC format).



LRC Order No.: Est. Price:  
508442 \$9.90

# Out of Sight: A Study of Life and Physical Phenomena in Space

## Science Links Series

### Support Resource

© 2000

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
														✓

Science Links is an integrated science curriculum consisting of 14 self-contained modules, each built around a theme of interest to teens. *Out of Sight* is one of two modules focused on space and space exploration. It covers ten topics, each with background readings, step-by-step instructions for investigations, and discussion and homework questions. The hands-on exploratory activities suggested for small groups follow a consistent instructional process, allowing students to make the connection between science and their everyday lives. Topics covered in this module include: power to explore space, intermolecular forces, weightlessness, living in space, gravitational force, alien life forms, the expanding universe and stars.

**Reactivity of Elements**  
**Science Key Concepts: Chemistry Series**  
**Support Resource**

513243 \$34.95

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
											✓			

This 15-minute video explores the reactivity of elements and their placement on the periodic table. The video is divided into three parts. Part 1 examines the reactivity of the alkali metals; part 2 examines the reactivity of the halogens; and part 3 explores the range of reactivity among metals. Various chemical reactions, along with their reaction equations, are shown in order to demonstrate to students the trends in reactivity. Computer animation is used to illustrate the placement of elements and reactivity trends on the periodic table. The accompanying print material includes background information, suggested discussion questions, and two possible experiments.



**Return of the Peregrine****Support Resource**

© 2001

**ACCESS—The Education Station / Regional Resource and Urban Media Centres****BPN 2044801**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
					✓		✓			✓		✓		

This 48-minute video presents an engaging look at the peregrine falcon's decline after WWII and the realization that DDT was causing a problem in egg reproduction. It follows two Alberta scientists through their struggles and successes in trying to save this species. The captive breeding program in and around Edmonton shows both successes and limitations of human interventions to minimize loss of species diversity.

**Right Whales*****Champions of the Wild Series*****Support Resource**

© 1998

**520892****\$46.70**

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
										✓				

The *Champions of the Wild* series deals with various endangered species and the people who are trying to save them. This video focuses on right whales, an endangered species that lives off both of Canada's coasts. The video examines why these animals are being threatened, giving background on whaling and on the modern dangers to the whales. The video also explores what actions are being taken to protect the right whales and their habitats, focusing on the work of Dr. Moira Brown and Deborah Tobin, who founded East Coast Ecosystems, an organization dedicated to the conservation and monitoring of right whales. This resource could be used to illustrate to students different ways that the public can help to protect a specific species.

- **ScienceFocus 9 (Student Text)**
  - **ScienceFocus 9: Teacher's Resource Binder** (includes Teacher's Resource CD-ROM (Macintosh / Windows Version))
  - **ScienceFocus 9: Blackline Masters CD-ROM** (Macintosh / Windows Version)
- ScienceFocus 9: Science • Technology • Society Series**

#### Basic Resource

© 2002 Author(s): Lindenberg, D. et al.

LRC Order No.: Est. Price:  
 470625 \$68.05  
 470633 \$116.85  
 470732 \$174.75

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
										✓	✓	✓	✓	✓

This student text provides direct support for the Alberta program of studies for Grade 9 Science. The resource provides an extensive set of learning activities and background readings for students. The student text includes preview and review sections with each chapter, a science skills guide, and a glossary of key terms. Numerous Canadian and Alberta examples are included.

The comprehensive *Teacher's Resource Binder* is a valuable complement to the *ScienceFocus 9* student textbook. It provides a variety of teaching strategies for this program, relevant ICT outcomes that tie into Grade 9 Science, as well as the curricular correlation of activities and concepts developed. Course apparatus and materials are listed for each of the five units. Also included is a section on microchemistry, a technique of using smaller quantities of chemicals, and one on laboratory safety. All of this information is integrated into each unit to assist teachers in their lesson planning and effective delivery of the course content.

The *Blackline Masters CD-ROM* gives teachers convenient access to all the blackline masters developed for each unit of the Grade 9 Science program, as well as those intended for student review of course material and a number designed as teacher assessment tools.



**Solar System: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies)**

**509078 \$91.20**

**NGS Picture Pack Series**

**Authorized Teaching Resource**

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
														✓

This set of transparencies contains colourful representations of the planets, moons and asteroids. Both paintings and photographs are used to show a variety of images similar to those in the corresponding NGS PictureShow CD-ROM. The resource is suitable for Science 9E: Space Exploration, and could be used to stimulate students' interest.

**Stars and Galaxies (Macintosh / Windows Version)**

**509052 \$109.90**

**NGS PictureShow Series**

**Support Resource**

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
														✓

This CD-ROM examines the distribution of matter in the universe, including the properties and classes of stars, and the classes and formation of galaxies. The majority of the information is delivered through two multimedia presentation files using narration, music and images. Students can copy and paste or print the text or pictures for research purposes. The resource also comes with basic assessment sheets and classroom activities. The still images supplied in this CD-ROM are also available in the corresponding transparency pack.



# Stars and Galaxies: NGS Picture Pack Transparencies (includes Teacher's Guide and 40 Transparencies)

## NGS Picture Pack Series

### Authorized Teaching Resource

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
														✓

This set of transparencies includes images of white dwarfs, red and blue giants, neutrons stars, pulsars, nebulae, and the typical life cycle of a star. Also included are interesting details about distant spiral, elliptical and irregular galaxies. Information for each transparency is included in a teacher's guide. This resource would be useful as an interest catcher when covering Unit E: Space Exploration.

## Swift Foxes

### Champions of the Wild Series

#### Support Resource

© 1998

520909 \$46.70

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
										✓				

The *Champions of the Wild* series deals with various endangered species and the people who are trying to save them. This video deals specifically with the extirpation of swift foxes in Canada, revealing how these animals were brought virtually to extinction by plowing and animal poisoning. The main focus of the video is the struggle of the Smeeton family to breed the foxes in captivity for reintroduction in the wild. The video highlights one of the primary obstacles that Clio Smeeton has faced: the Canadian government's belief in translocation rather than breeding captive animals has meant Smeeton must sustain her reserve through private funding.

Turn Left at Alpha Centauri  
Science Links Series  
Support Resource

© 1998

Grade 7					Grade 8					Grade 9				
Unit A Interactions and Ecosystems	Unit B Plants for Food and Fibre	Unit C Heat and Temperature	Unit D Structure and Forces	Unit E Planet Earth	Unit A Mix and Flow of Matter	Unit B Cells and Systems	Unit C Light and Optical Systems	Unit D Mechanical Systems	Unit E Freshwater and Saltwater Systems	Unit A Biological Diversity	Unit B Matter and Chemical Change	Unit C Environmental Chemistry	Unit D Electrical Principles & Technologies	Unit E Space Exploration
														✓

Science Links is an integrated science curriculum consisting of 14 self-contained modules, each built around a theme of interest to teens.

*Turn Left At Alpha Centauri* is one of two modules focused on space and space exploration. It covers 13 topics, each with background readings, step-by-step instructions for investigations, and discussion and homework questions. The hands-on exploratory activities suggested for small groups follow a consistent instructional process, allowing students to make the connection between science and their everyday lives. Topics covered in this module include: life-support systems in space, measuring weight in space, weightlessness, gravity and orbits, craters and cosmic collisions, elements and their spectrum, survey of the planets, stars and their colour, red shift, cosmic distance and parallax angle, and the expanding universe.







# ALBERTA AUTHORIZED RESOURCE LIST and ANNOTATED BIBLIOGRAPHY

Vendors/Distributors

**Alberta**  
LEARNING

Learning and Teaching Resources Branch



## Vendors/Distributors

ACCESS—The Education Station  
3720 – 76 Avenue  
EDMONTON, AB, CANADA T6B 2N9  
Telephone: 800–352–8293; 780–440–7728  
Fax: 780–440–8899  
Internet: <http://www.accesslearning.com>

Federation of Ontario Naturalists  
355 Lesmill Road  
DON MILLS, ON, CANADA M3B 2W8  
Telephone: 416–444–8419  
Fax: 416–444–9866  
Internet: <http://www.ontarionature.org/>

Learning Resources Centre (LRC)  
12360 – 142 Street  
EDMONTON, AB, CANADA T5L 4X9  
Telephone: 780–427–5775  
Fax: 780–422–9750  
Internet: <http://www.lrc.learning.gov.ab.ca>

Marlin Motion Pictures Ltd.  
211 Watline Avenue  
MISSISSAUGA, ON, CANADA L4Z 1P3  
Telephone: 800–865–7617  
Fax: 800–203–8786  
Internet: <http://www.marlineducation.com>

Reel Girls Media  
204–8407 Argyll Road  
EDMONTON, AB, CANADA T6C 4B2  
Telephone: 780–488–0440  
Fax: 780–452–4980  
Internet: <http://www.reelgirlsmedia.com/>













